RB1 Block Diagram

MBX-112

	* GM	GME
1. VCC PR57:	1.2V 17.4K/F	1.35V 14K/F
2. HLRCOMP R91:	27.4/F	37.4/F

Intel BANIAS/Dothan
478 PIN (micro FC-BGA)

System bus 4x100 MHz

CRT — R/G/B
LCD (Up to UXGA) — LVDS SIGNAL
AVOUT — TV SIGNAL — DVI Device Chrontel 7011 — DVO

NORTH BRIDGE
Montara-GME
732 PIN (micro FCBGA)

DRAM SIGNAL
DDR CLOCK
DDR 266/333 SO-DIMM 1/2

Hub interface 1.5
66MHz(266-MB/s)

South Bridge
82801DBM
ICH4-M
421 BGA

PCI BUS
- TI-PCI7420
  - SLOT0/1
  - Memory Stick CNX-244
  - 1394, USB*3 CNX-243
- Mini PCI Wireless LAN
- LAN RTL8100BL
  - RJ45, RJ11

AC LINK2 — MDC Module

USB 1.1/2.0 — USB*1
SECONDARY IDE BUS — CDROM
PRIMARY IDE BUS — HDD
USB*1 Option

3.3V LPC,33MHZ

AC LINK1 — ALC203
- TPA0312
  - MIC., Audio Jack CNX-241
  - INT.SPKR.

PCU
NS PC87591
- TOUCH PAD
- INT.K/B
- BIOS

SIO
NS PC87391
- Parallel
- FDD

- Power LED, Battery LED, Sleep LED, HDD LED, Wireless LED — LEX-55
- Int. Speaker, K/B LED, Function SW, Wireless SW, LED — SWX-163
- T/P SWITCH — SWX-164

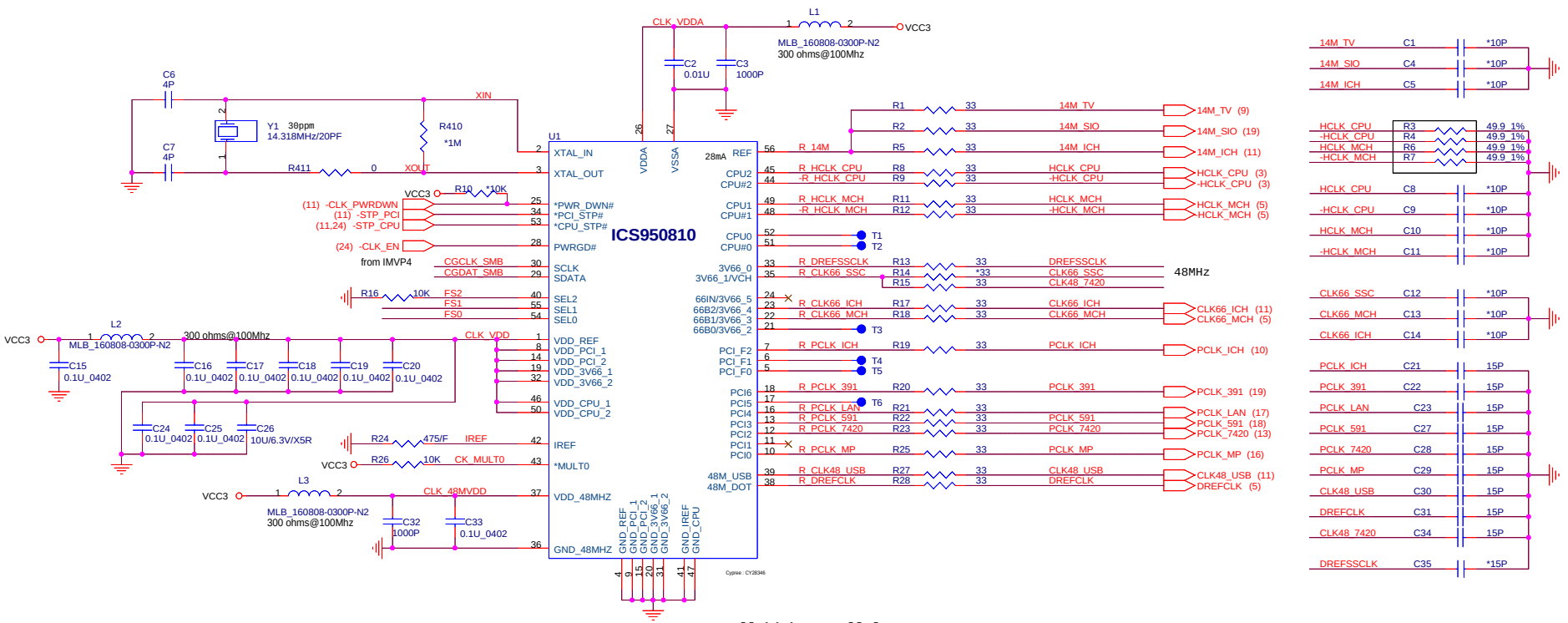
POWER Block Diagram (PWS-37)

- MAX1632
  - 12V_LDO — SUSON — 12V
  - 5VPCU — SUSON — 5VSUS
  - 3VPCU — SUSON — 3VSUS
- SUSON, RVCC_ON — MAX1715
  - SUSON — LP2996 /G2996 — 2.5VSUS — VTT_MEM
  - RVCC_ON — LP2951 ACM-3.3 — REF3V
  - RVCC1.5 — SC338 — VRON — VCCP, VCC1.35
  - SUSON, VRON — MAX1987 — VIN — VCC_CORE
  - 1.5VSUS

QUANTA COMPUTER

Size	Document Number	Rev
	RB1 Main Board	1A

Date: 星期三, 八月 27, 2003 Sheet 1 of 28



X : Pull high or pull low
Mid : Pin float

FS2	FS1	FS0	CPU	3V66[5:0]	PCI_F[2:0]
X	0	0	166.66	66.66	33.33
* X	0	1	100.00	66.66	33.33
X	1	0	200.00	66.66	33.33
X	1	1	133.33	66.66	33.33
Mid	0	0	Tristate	Tristate	Tristate
Mid	0	1	TCLK/2	TCLK/4	TCLK/8
Mid	1	0	Reserved	Reserved	Reserved
Mid	1	1	Reserved	Reserved	Reserved

1. Use ICS 91718
   Mount : U2,R35,R36,R37,R34,L4,R14
   No mount :R13,R15
2. Don't use ICS91718
   Mount :R13,R15
   No mount : U2,R35,R36,R37,R34,L4,R14

* : Internal pull-up resistor
**:Internal pull-down resistor

CPUCLK IREF SETUP:

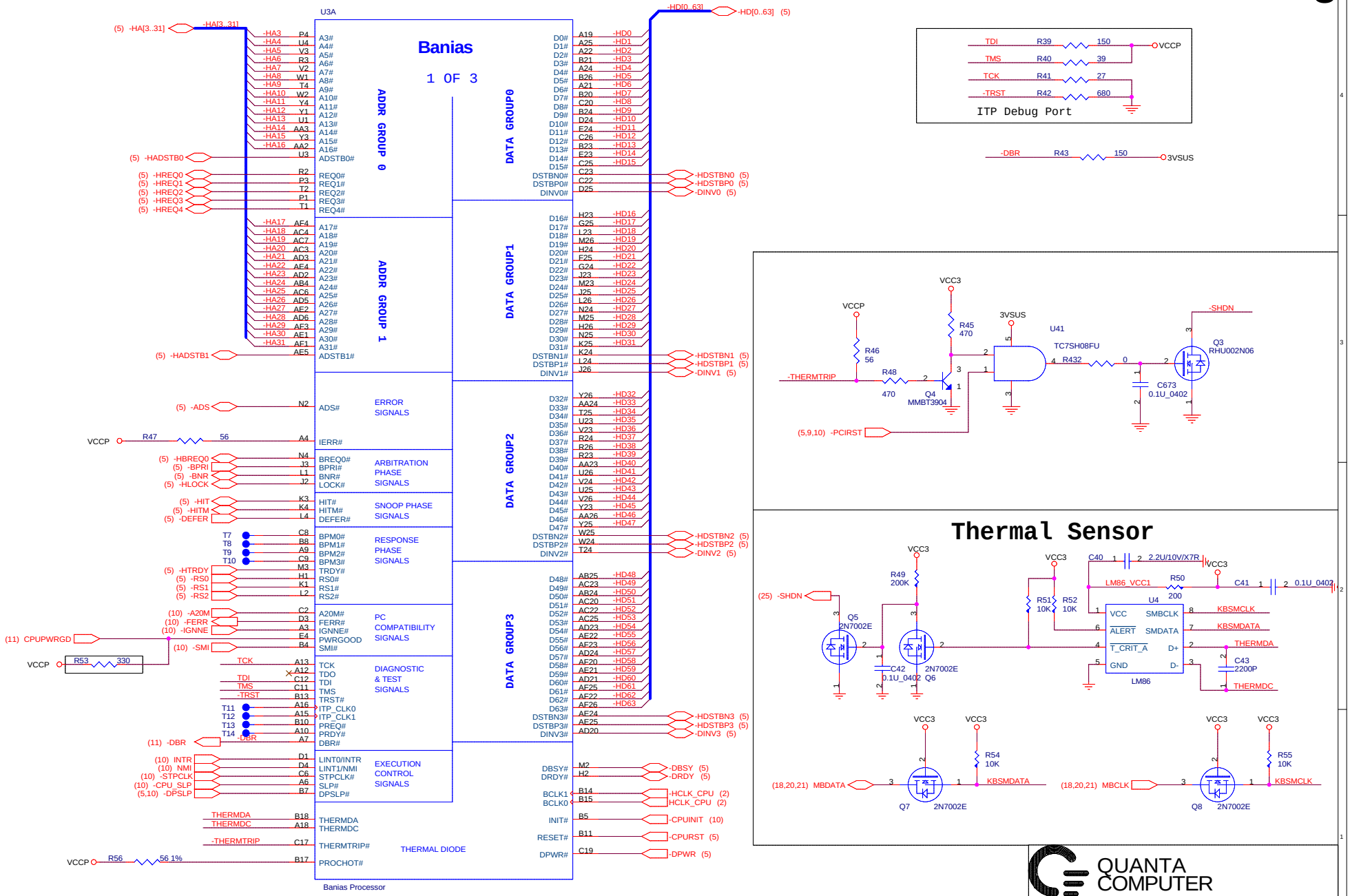
	CK_MULT0	IREF	Output Current
*	0	221 1% Iref=5mA	Ioh = 4*IREF
	1	475 1% Iref=2.32mA	Ioh = 6*IREF

FS_IN1	FS_IN0	MHz	SPREAD
0	0	14.318 In 48 Out	-1.0% down Sprd
* 0	1	14.318 In 66 Out	-1.0% down Sprd
1	0	48 In/Out, 66 In/Out	-1.0% down Sprd
1	1	48 In/Out, 66 In/Out	+-1.0% CENTER Sprd

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

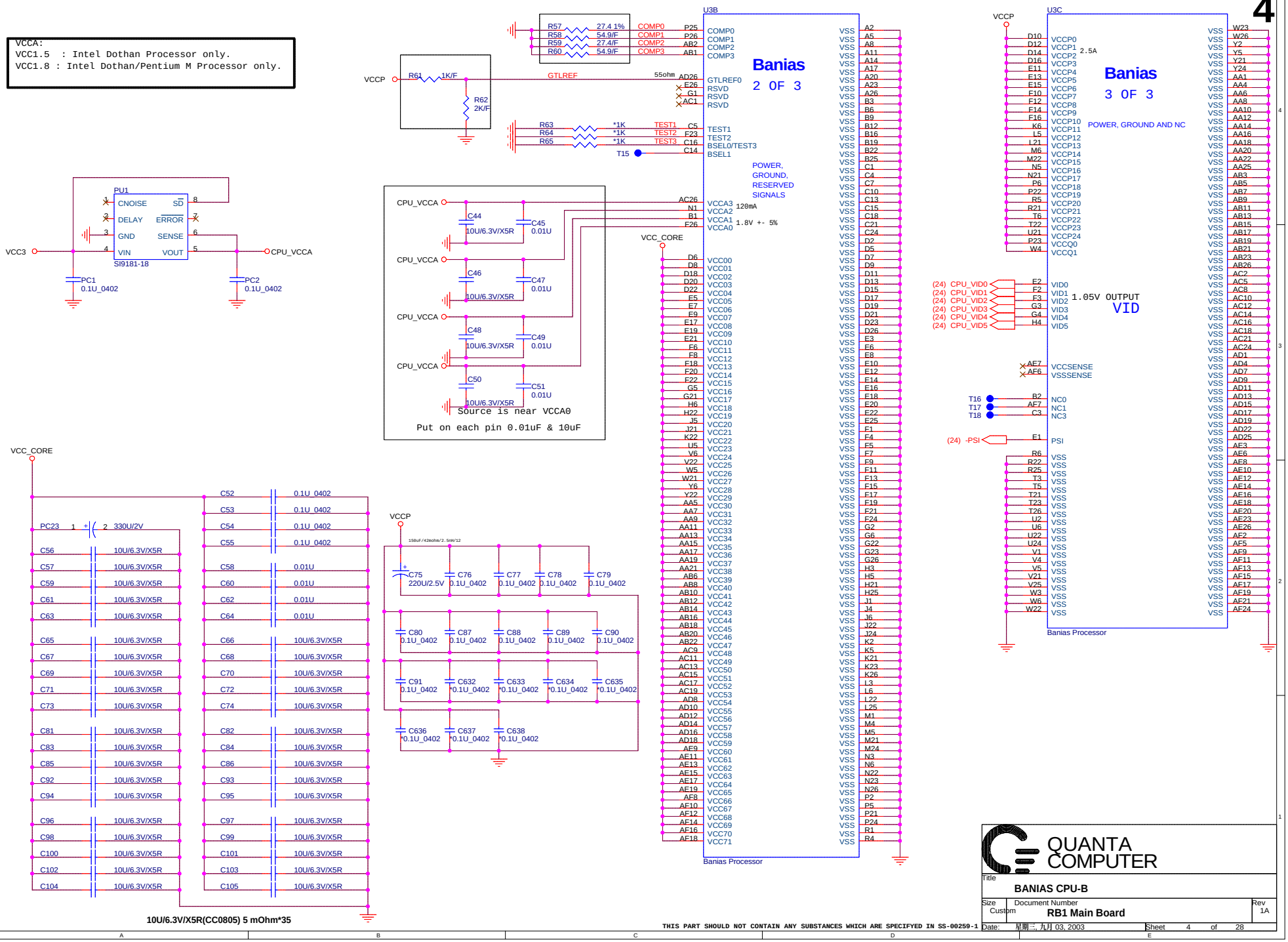
Title: CLOCK GENERATOR
Size: Custom | Document Number: RB1 Main Board | Rev: 1A
Date: 星期二, 九月 02, 2003 | Sheet 2 of 28

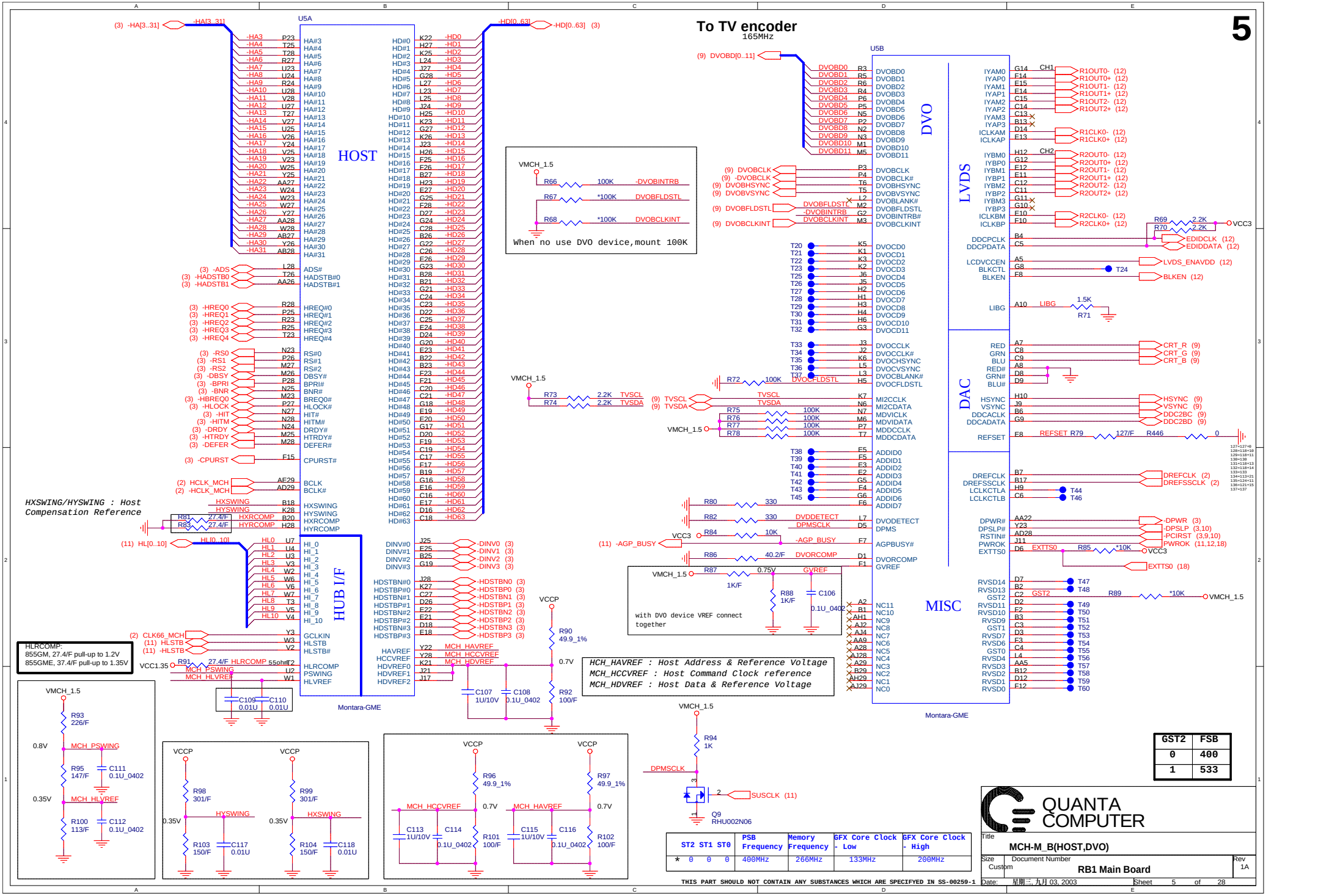


THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

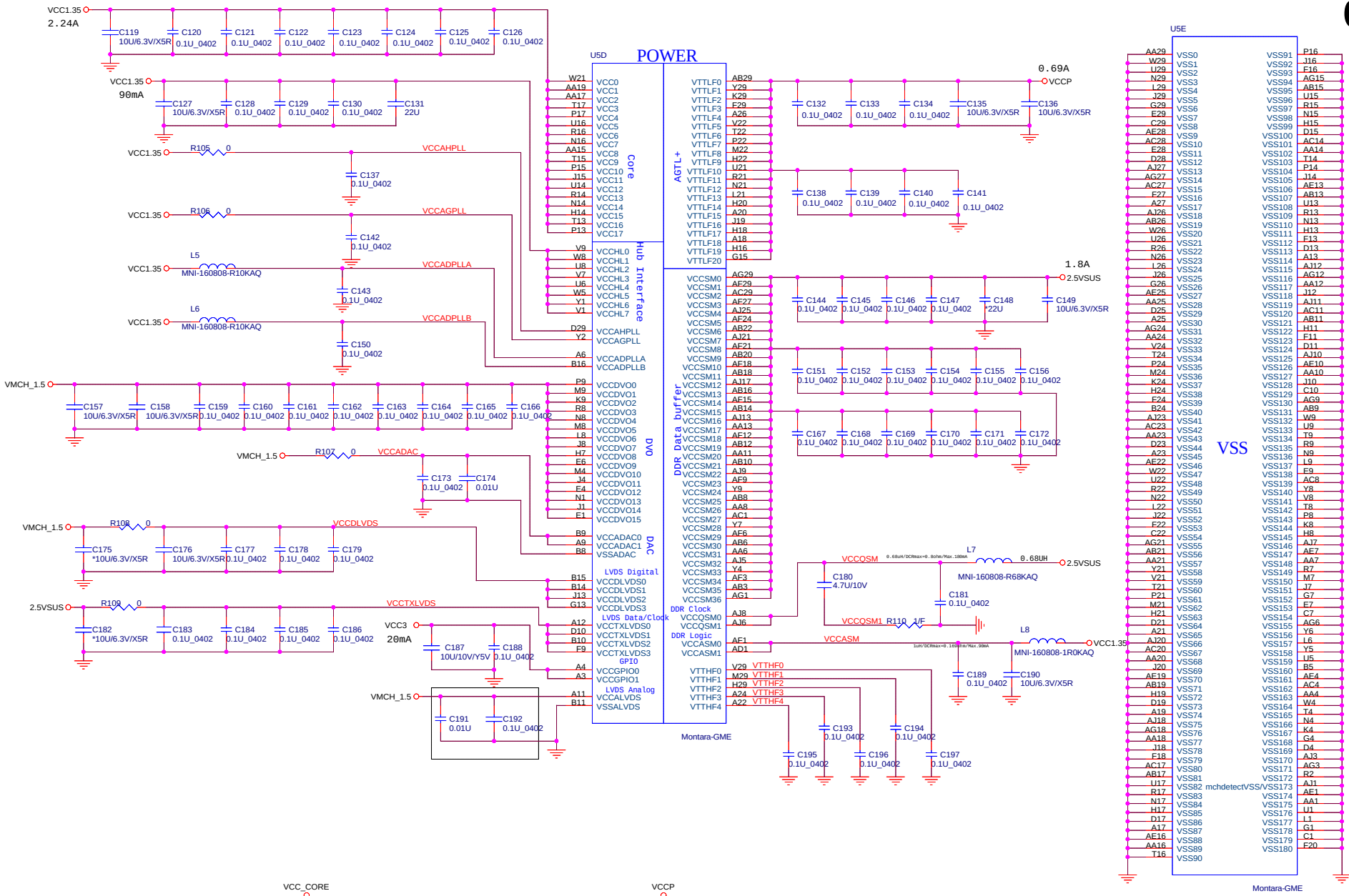
Title	BANIAS CPU - A	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 3 of 28	


VCCA:
VCC1.5 : Intel Dothan Processor only.
VCC1.8 : Intel Dothan/Pentium M Processor only.
4
U3B
Banias
2 OF 3
POWER, GROUND, RESERVED SIGNALS
Banias Processor
U3C
Banias
3 OF 3
POWER, GROUND AND NC
Banias Processor
VCCP
2.5A
VCC_CORE
1.8V +- 5%
120mA
1.05V OUTPUT
VID
PU1
SI9181-18
CNOISE
DELAY
GND
VIN
SD
ERROR
SENSE
VOUT
VCC3
CPU_VCCA
PC1
0.1U_0402
PC2
0.1U_0402
R57 27.4 1%
R58 54.9/F
R59 27.4/F
R60 54.9/F
COMP0
COMP1
COMP2
COMP3
R61 1K/F
R62 2K/F
GTLREF
55ohm
R63 *1K
R64 *1K
R65 *1K
TEST1
TEST2
TEST3
T15
C44 10U/6.3V/X5R
C45 0.01U
C46 10U/6.3V/X5R
C47 0.01U
C48 10U/6.3V/X5R
C49 0.01U
C50 10U/6.3V/X5R
C51 0.01U
Source is near VCCA0
Put on each pin 0.01uF & 10uF
PC23 330U/2V
C52 0.1U_0402
C53 0.1U_0402
C54 0.1U_0402
C55 0.1U_0402
C56 10U/6.3V/X5R
C57 10U/6.3V/X5R
C58 0.01U
C59 10U/6.3V/X5R
C60 0.01U
C61 10U/6.3V/X5R
C62 0.01U
C63 10U/6.3V/X5R
C64 0.01U
C65 10U/6.3V/X5R
C66 10U/6.3V/X5R
C67 10U/6.3V/X5R
C68 10U/6.3V/X5R
C69 10U/6.3V/X5R
C70 10U/6.3V/X5R
C71 10U/6.3V/X5R
C72 10U/6.3V/X5R
C73 10U/6.3V/X5R
C74 10U/6.3V/X5R
C81 10U/6.3V/X5R
C82 10U/6.3V/X5R
C83 10U/6.3V/X5R
C84 10U/6.3V/X5R
C85 10U/6.3V/X5R
C86 10U/6.3V/X5R
C92 10U/6.3V/X5R
C93 10U/6.3V/X5R
C94 10U/6.3V/X5R
C95 10U/6.3V/X5R
C96 10U/6.3V/X5R
C97 10U/6.3V/X5R
C98 10U/6.3V/X5R
C99 10U/6.3V/X5R
C100 10U/6.3V/X5R
C101 10U/6.3V/X5R
C102 10U/6.3V/X5R
C103 10U/6.3V/X5R
C104 10U/6.3V/X5R
C105 10U/6.3V/X5R
10U/6.3V/X5R(CC0805) 5 mOhm*35
C75 220U/2.5V
C76 0.1U_0402
C77 0.1U_0402
C78 0.1U_0402
C79 0.1U_0402
C80 0.1U_0402
C87 0.1U_0402
C88 0.1U_0402
C89 0.1U_0402
C90 0.1U_0402
C91 0.1U_0402
C632 *0.1U_0402
C633 *0.1U_0402
C634 *0.1U_0402
C635 *0.1U_0402
C636 *0.1U_0402
C637 *0.1U_0402
C638 *0.1U_0402
(24) CPU_VID0
(24) CPU_VID1
(24) CPU_VID2
(24) CPU_VID3
(24) CPU_VID4
(24) CPU_VID5
VID0
VID1
VID2
VID3
VID4
VID5
VCCSENSE
VSSSENSE
NC0
NC1
NC3
(24) -PSI
PSI
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1
QUANTA COMPUTER
Title
BANIAS CPU-B
Size
Custom
Document Number
RB1 Main Board
Rev
1A
Date:
星期二, 九月 03, 2003
Sheet
4
of
28



ST2	ST1	ST0	PSB Frequency	Memory Frequency	GFX Core Clock - Low	GFX Core Clock - High
*	0	0	0	400MHz	266MHz	133MHz	200MHz

GST2	FSB
0	400
1	533


6
POWER
U5D
U5E
VSS
Montara-GME
VCC1.35
2.24A
90mA
VCCAHPLL
VCCAGPLL
VCCADPLLA
VCCADPLLB
VMCH_1.5
VCCADAC
VCCDLVDS
VCCTXLVDS
2.5VSUS
VCC3
20mA
0.69A
VCCP
1.8A
2.5VSUS
0.68UH
MNI-160808-R68KAQ
MNI-160808-R10KAQ
MNI-160808-1R0KAQ
VCCASM
VCCOSM
VCCOSM1
VCC1.35
VCC_CORE
VCCP
Core
Hub Interface
AGTL+
DDR Data buffer
DVO
DAC
LVDS Digital
LVDS Data/Clock
DDR Clock
DDR Logic
LVDS Analog
GPIO
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1
QUANTA COMPUTER
Title
GMCH-M_B(VCC,GND)
Size
Custom
Document Number
RB1 Main Board
Rev
1A
Date:
星期四, 九月 04, 2003
Sheet
6
of
28

U5C

DDR 200/266 MHz

Montara-GME

Data Bus

Place Rterms close to second DIMM

Address Bus

remove RCVENIN# and RCVENOUT#

VTT_MEM

2.5VSUS

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title	MCH-M_C(DDR)	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 7 of 28	

DDR - Modules

CON1

DDR_SODIMM-STD

CON2

DDR_SODIMM-RVS

(7) RMA[0..12] — RMA[0..12]

2.5VSUS

(7) MA0 — MA0
(7) MA3 — MA3
(7) MA6 — MA6
(7) MA7 — MA7
(7) MA8 — MA8
(7) MA9 — MA9
(7) MA10 — MA10
(7) MA11 — MA11
(7) MA12 — MA12

(7) MBA0 — MBA0
(7) MBA1 — MBA1

(7) DM[0..7] — DM0 DM1 DM2 DM3 DM4 DM5 DM6 DM7 DM8

(7) MDQS[0..7] — MDQS0 MDQS1 MDQS2 MDQS3 MDQS4 MDQS5 MDQS6 MDQS7

(7) -SRASA — RAS#
(7) -BMWEA — WE#
(7) -SCASA — CAS#

(7) -MCS0 — S0#
(7) -MCS1 — S1#

(7) MCKE0 — CKE0
(7) MCKE1 — CKE1

(7) MCLK0+ — CK0
(7) MCLK0- — CK0#
(7) MCLK1+ — CK1
(7) MCLK1- — CK1#

CK2 CK2#

(2) CGDAT_SMB — SDA
(2) CGCLK_SMB — SCL

CB0 CB1 CB2 CB3 CB4 CB5 CB6 CB7

MVREF_DIM — VREF VREF
VCC3 — VDDSPD
2.5VSUS — R161 10K — VDDID

MD[0..63] (7)

DU DU DU DU
DU/RESET#
DU/A13
DU/BA2

PAD PAD

SA0 SA1 SA2

(7) SM_B1 — SM_B1
(7) SM_B2 — SM_B2
(7) SM_B4 — SM_B4
(7) SM_B5 — SM_B5

(7) R_MBA0 — MBA0
(7) R_MBA1 — MBA1

(7) R_SRASA — RAS#
(7) R_BMWEA — WE#
(7) R_SCASA — CAS#

(7) -MCS2 — S0#
(7) -MCS3 — S1#

(7) MCKE2 — CKE0
(7) MCKE3 — CKE1

(7) MCLK3+ — CK0
(7) MCLK3- — CK0#
(7) MCLK4+ — CK1
(7) MCLK4- — CK1#

CGDAT_SMB — SDA
CGCLK_SMB — SCL

(26) MVREF_DIMM — R159 0 — MVREF_DIM
VCC3
2.5VSUS — R162 10K

R160 10K — VCC3

C274 C275 C276 C277 C278 C279 C280 C281 C285 C286 C291 C292 C303 C304 C310 C311 C316 C317 — 0.1U_0402

C282 C287 C293 C305 C312 C318 — 1000P

C283 C288 C294 C306 C313 C319 — 0.1U_0402

C284 C289 C295 C307 C314 C320 — 0.01U

C290 C296 C308 C315 C321 — 0.1U_0402

2.5VSUS — R163 *150 — MVREF_DIM
(7) MVREF_DIM — MVREF_DIM — R164 *150
C309 1U/6.3V

MVREF_DIM — C297 1U/6.3V — C298 0.1U_0402 — C299 1000P — C300 1U/6.3V — C301 1U/6.3V — C302 1U/6.3V

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title: **Memory SODIMM**

Size: Custom | Document Number: **RB1 Main Board** | Rev: 1A

Date: 星期五, 九月 05, 2003 | Sheet 8 of 28

Pin8(GPIO0) :*Low(330)=NTSC
, High(10K)=PAl
Pin10(AS) :CH7011 Adress
*Low(330)=OX76
High(10K)=OX75

TV-OUT

(5) DVOBD[0..11]
DVOBD11 DVOBD10 DVOBD9 DVOBD8 DVOBD7 DVOBD6 DVOBD5 DVOBD4 DVOBD3 DVOBD2 DVOBD1 DVOBD0
U6
D11 D10 D9 D8 D7 D6 D5 D4 D3 D2 D1 D0
TDO* TDO0 TDO1* TDO1 TDO2* TDO2 TLC TLC*
HPDET/NC
BCO → R165 0 → DVOBFLDSTL (5)
C/H Sync → T63
CVBS → R166 75 → CVBS
Y/G → R167 75 → TV_LUMA
C/R/V → R168 75 → TV_CHROMA
CVBS/B/U → R171 75 → TV_COMP

(5) -DVOBCLK
(5) DVOBCLK
XCLK* XCLK
NC/DE
(5) DVOBCLKINT → Pout/DET*
(5) DVOBHSYNC → H
(5) DVOBVSYNC → V
(3,5,10) -PCIRST → RESET*
SPD SPC
R176 330 TVGPIO0 (C328 0.1U_0402) → GPIO1 GPIO0
R178 330 AS → AS
R179 140/F ISET → ISET
NC/VSWING
VCC1.5 R180 10K TVREF → VREF
R181 10K C336 0.1U_0402

DVDD0 DVDD1 DVDD2 — TV_DVDD — R172 0 → VCC3
C322 0.1U_0402 C323 0.1U_0402 C324 0.1U_0402 C325 10U/6.3V/X5R
DGND0 DGND1 DGND2
DVDDV — TV_DVDDV — R175 0 → VCC1.5
C326 0.1U_0402 C327 *10U/6.3V/X5R
TVDD0/NC TVDD1/NC TGND0/NC TGND1/NC TGND2/NC
AVDD0 AVDD1 AGND0 AGND1 AGND2 — TV_AVDD — R177 0 → VCC3
C331 0.1U_0402 C332 0.1U_0402 C333 10U/10V/Y5V
VDD → VCC3
GND0 GND1
C334 0.1U_0402 C335 *10U/6.3V/X5R

XI/FIN XO
CH7011
R433 *1M
R434 0
(2) 14M_TV → R182 0 → Y2 20ppm *14.318MHz/20PF
C342 *22P C343 *22P

VCC1.5
R169 2.2K R170 2.2K
(5) TVSDA → Q10 FDV301N
(5) TVSCL → Q11 FDV301N
VCC3 VCC3
R173 2.2K R174 2.2K
C329 *22P C330 *22P

140/F put on between pin35 & 34

AV OUT

CON3
TVOUT
HSJ1594_JA6343L-LY700-TR
L9 MLB_160808-1000B-N3 → AVOUT_R (22)
L10 MLB_160808-1000B-N3
L12 MLB_160808-1000B-N3 → AVOUT_L (22)
C340 100P C341 100P
C337 33P
L11 1.8U TAIYO LK16081R8K 25mA → TV_COMP
C338 270P C339 100P
D1 *RSB6.8S

VCC3 VCC3
R184 4.7K R185 4.7K R186 4.7K R187 4.7K
D2 RB411D → VCC5
(5) DDC2BC → Q12 2N7002E → L13 MLB_160808-0120L-N2 → CRT-SCK
(5) DDC2BD → Q13 2N7002E → L14 MLB_160808-0120L-N2 → CRT-SDA
D6 UDZS6.2B D7 UDZS6.2B
C344 120P C345 120P
SOT23 RB411D

VCC5
R183 10K
D3 RB411D → VCC5
(5) HSYNC → U7A TC7W126FU → R188 39/F → D4 UDZS6.2B D5 UDZS6.2B → CRT-HS
U7B TC7W126FU
(5) VSYNC → R189 39/F → CRT-VS
C346 33P C347 33P

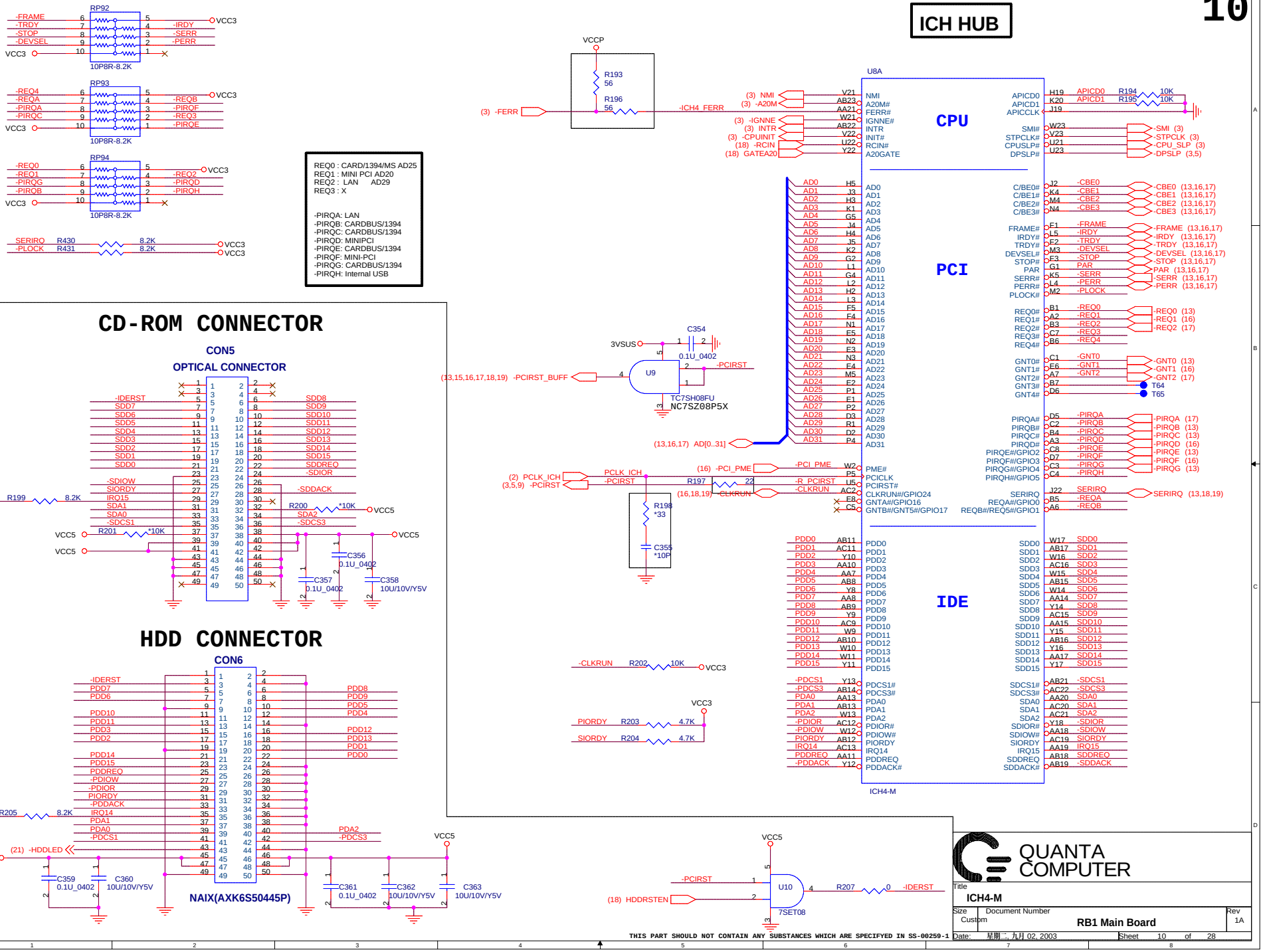
(5) CRT_R
(5) CRT_G
(5) CRT_B
L15 MLB-160808-0220B-N3 → CRT-R
L16 MLB-160808-0220B-N3 → CRT-G
L17 MLB-160808-0220B-N3 → CRT-B
R190 75_1% C348 3.3P R191 75_1% C349 3.3P R192 75_1% C350 3.3P
D8 UDZS6.2B D9 UDZS6.2B D10 UDZS6.2B
C351 3.3P C352 3.3P C353 3.3P
CON4
CRT_CONN
dz11a91-h7-17p
CRT-R CRT-SDA CRT-HS CRT-VS CRT-SCK

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title	CRT & TV DECORDER	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 9 of 28	

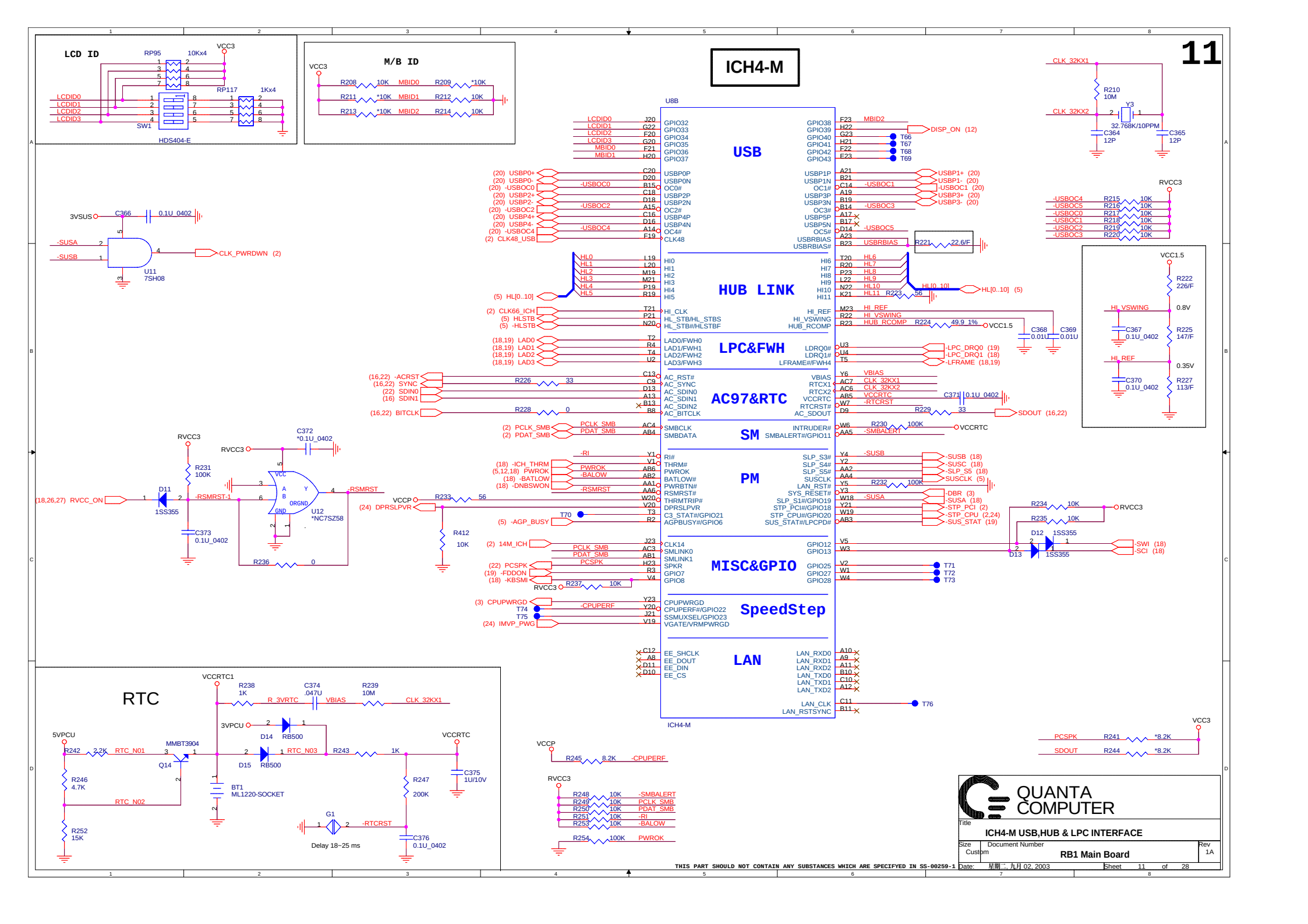
ICH HUB

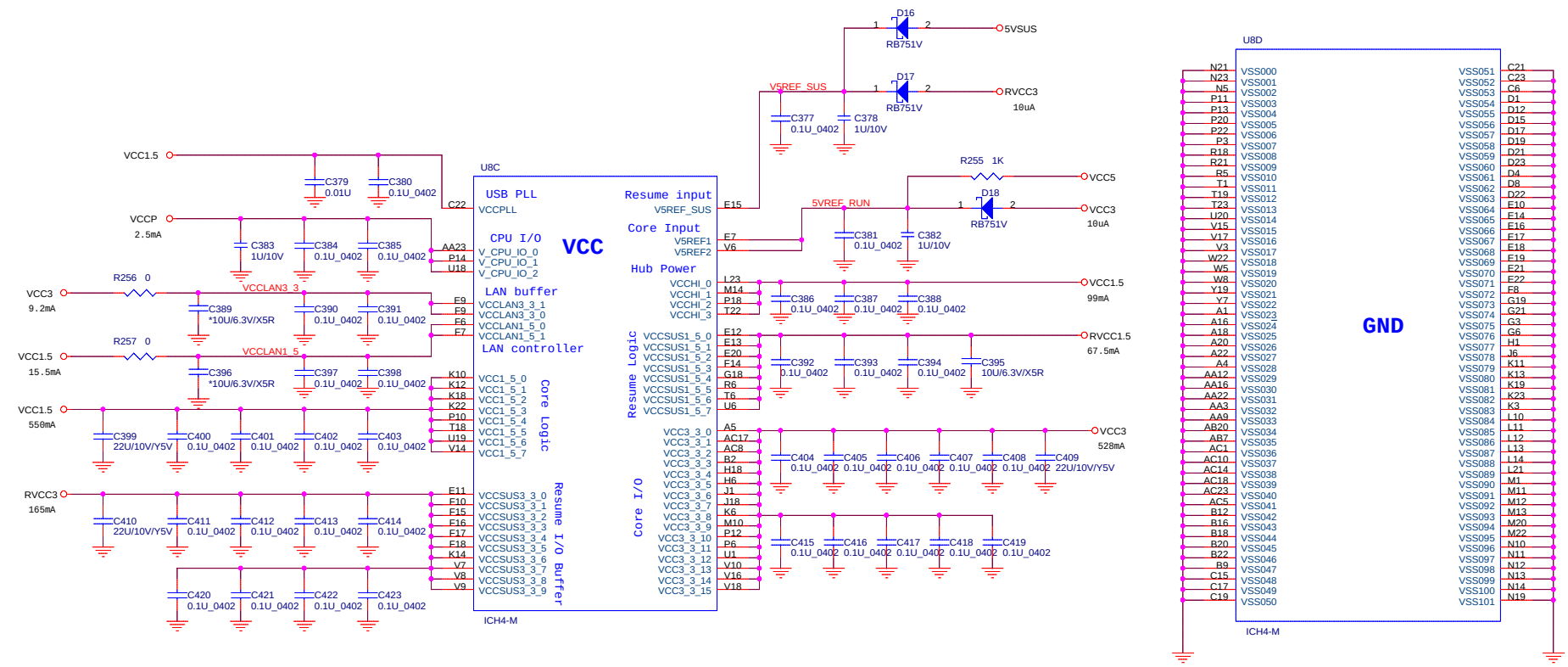


THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

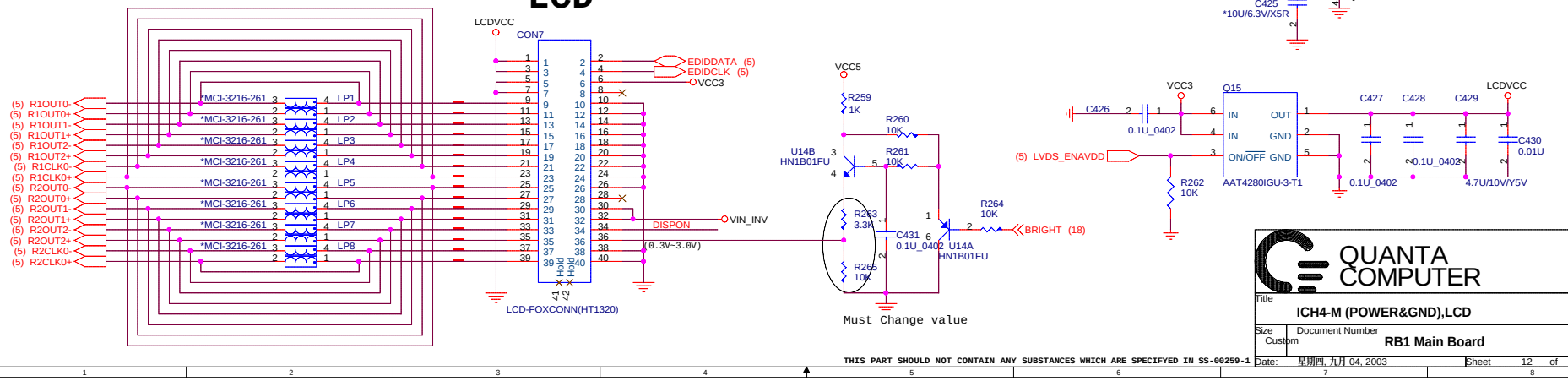
QUANTA COMPUTER

Title	ICH4-M	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 10 of 28	


11
ICH4-M
LCD ID
M/B ID
RTC
USB
HUB LINK
LPC&FWH
AC97&RTC
SM
PM
MISC&GPIO
SpeedStep
LAN
U8B
ICH4-M
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1
QUANTA COMPUTER
Title
ICH4-M USB,HUB & LPC INTERFACE
Size
Custom
Document Number
RB1 Main Board
Rev
1A
Date: 星期二, 九月 02, 2003
Sheet 11 of 28



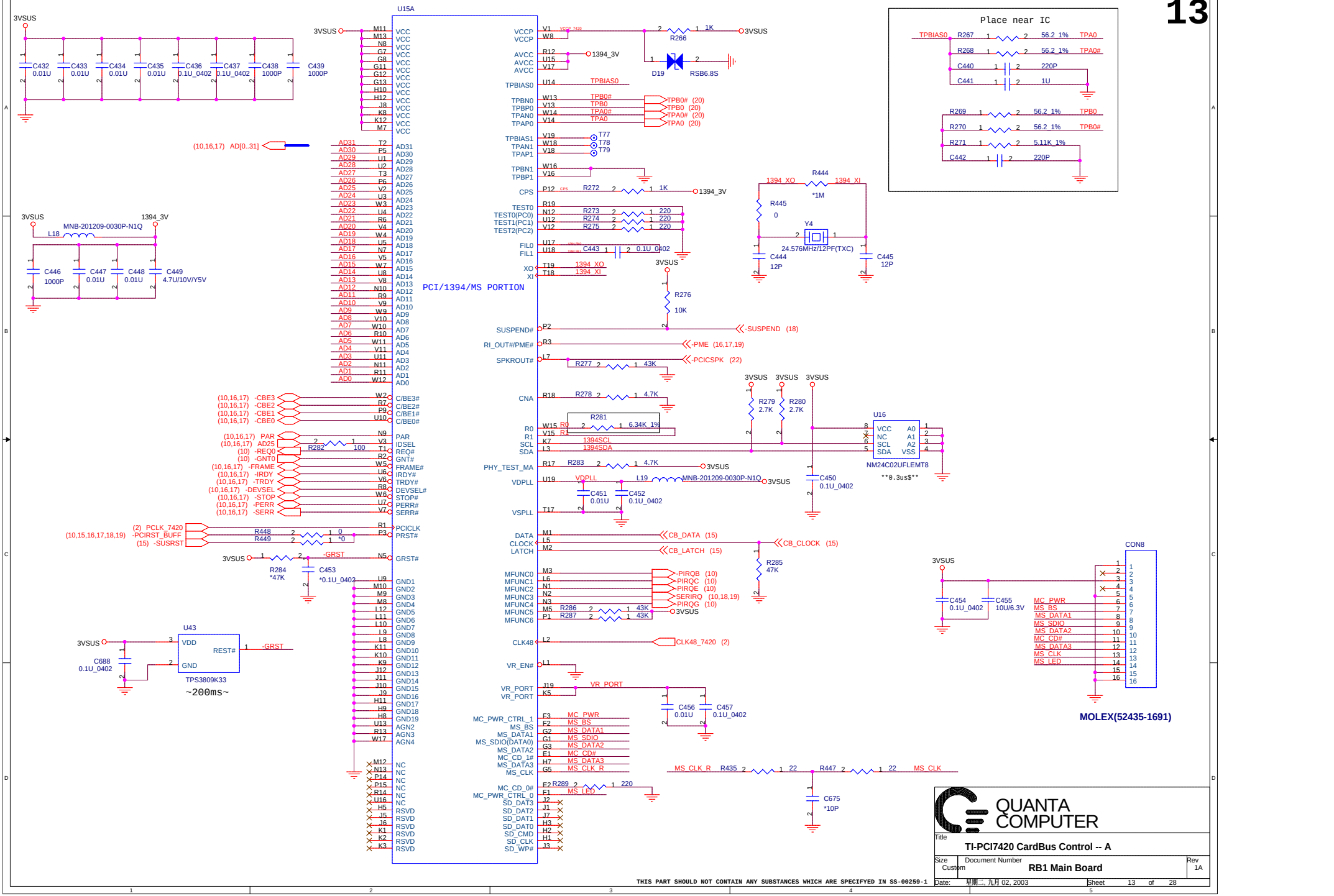
LCD



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

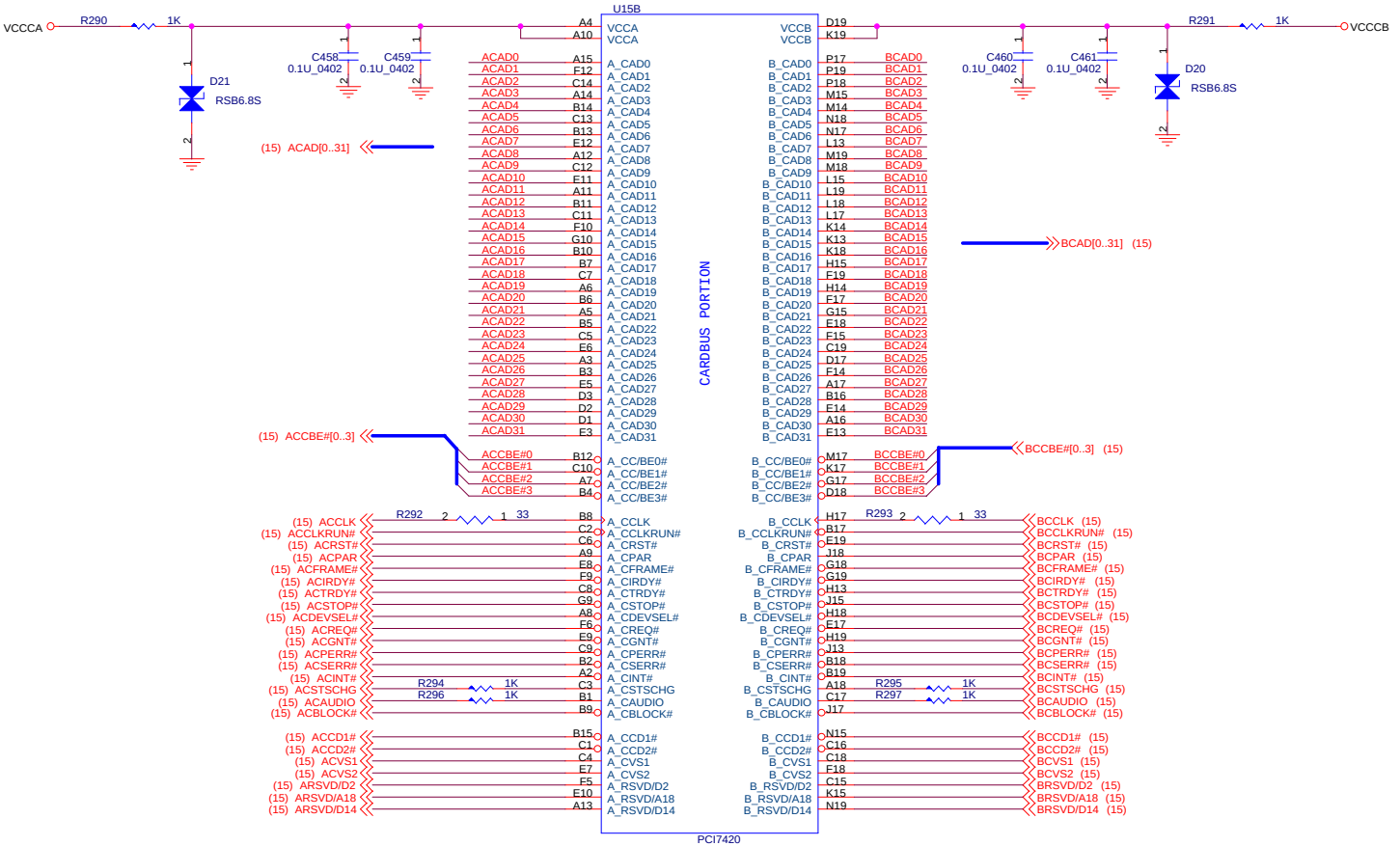
QUANTA COMPUTER

Title	ICH4-M (POWER&GND),LCD	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期四, 九月 04, 2003	Sheet 12 of 28	



QUANTA COMPUTER

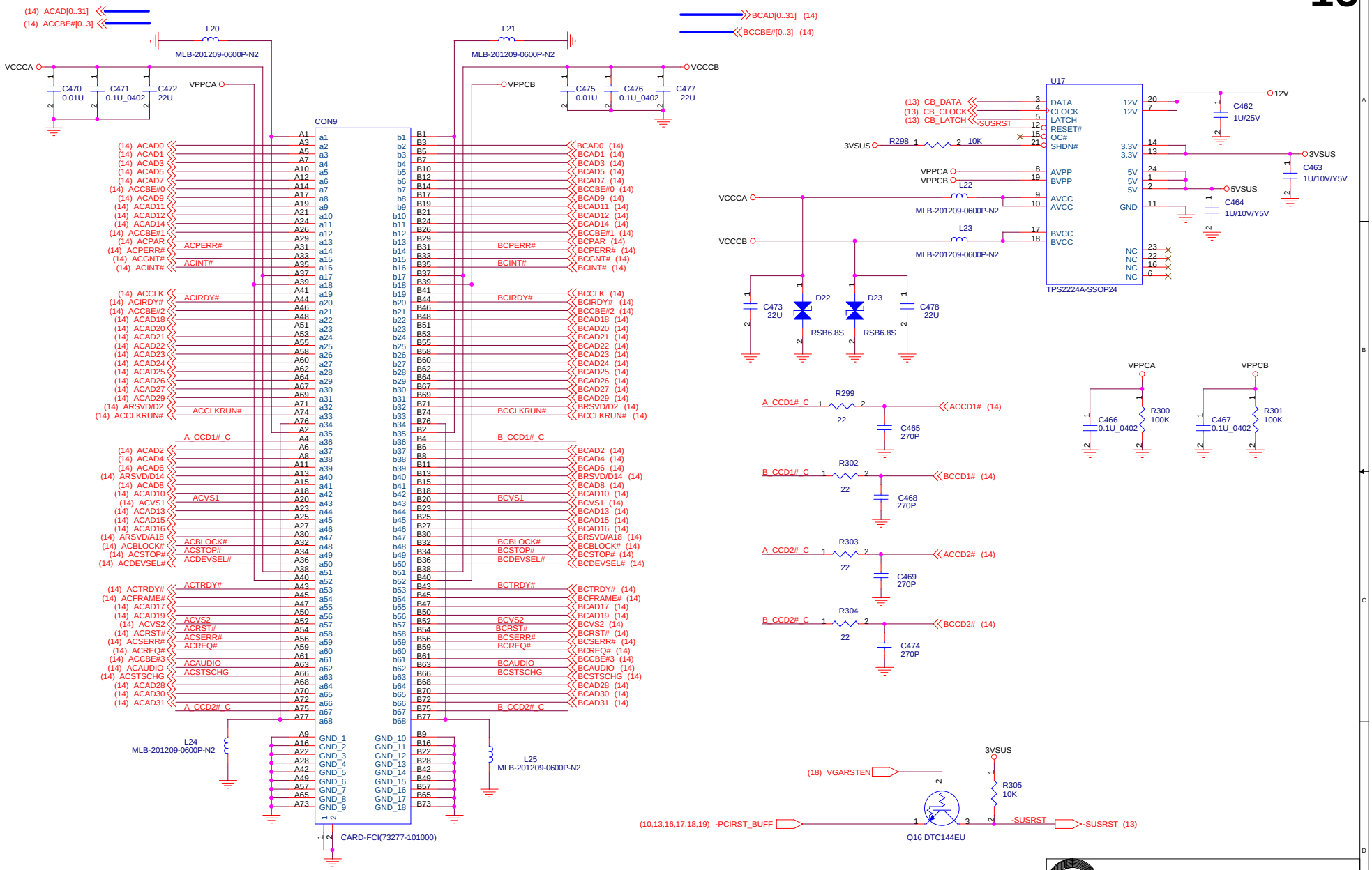
Title	TI-PCI7420 CardBus Control -- A	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 13 of 28	



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title	TI-PCI7420 CardBus Control -- B	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 14 of 28	



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title	CardBus Control SLOT	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 15 of 28	

MDC

ID Select : AD20
Interrupt Pin : -PIRQD, -PIRQF
Request indicates : -REQ1
Grant indicates : -GNT1

LED_GP :LED WLEN LINK
Output Current : 7mA
Blink rate : 1 flash per every 3 sec.

WLSW:
Low : disable the radio.
High : Enable the radio.

MINIPCI-AMP(440073-124)

CON10

CON23

MDC-AMP(3-179397-0) H=3.0

Q17 DTC144EU

Q18 2N7002E

U42 SN74LVC1G17

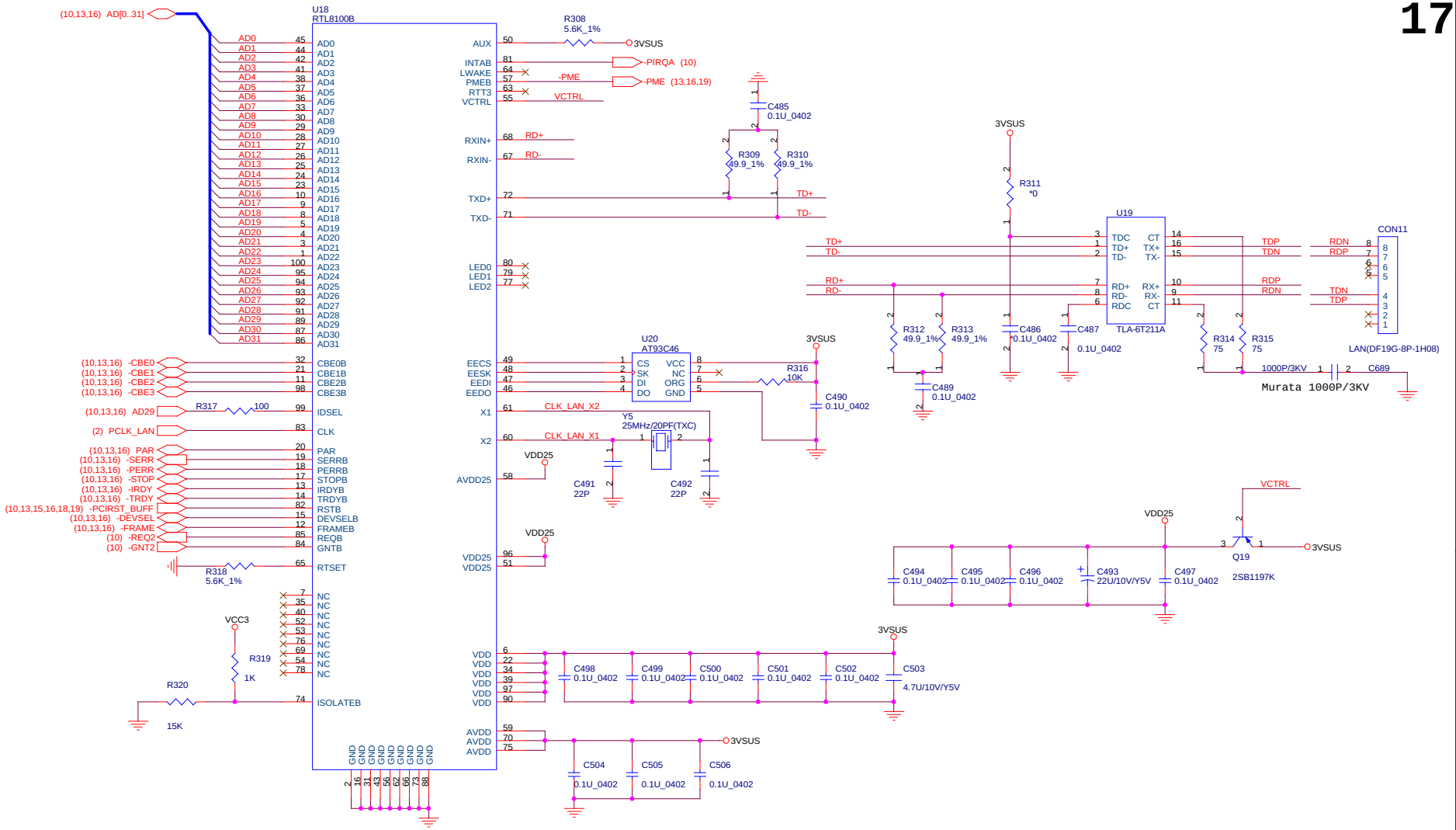
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Title: MINIPCI /MDC

Size: Custom | Document Number: RB1 Main Board | Rev: 1A

Date: 星期五, 九月 05, 2003 | Sheet 16 of 28



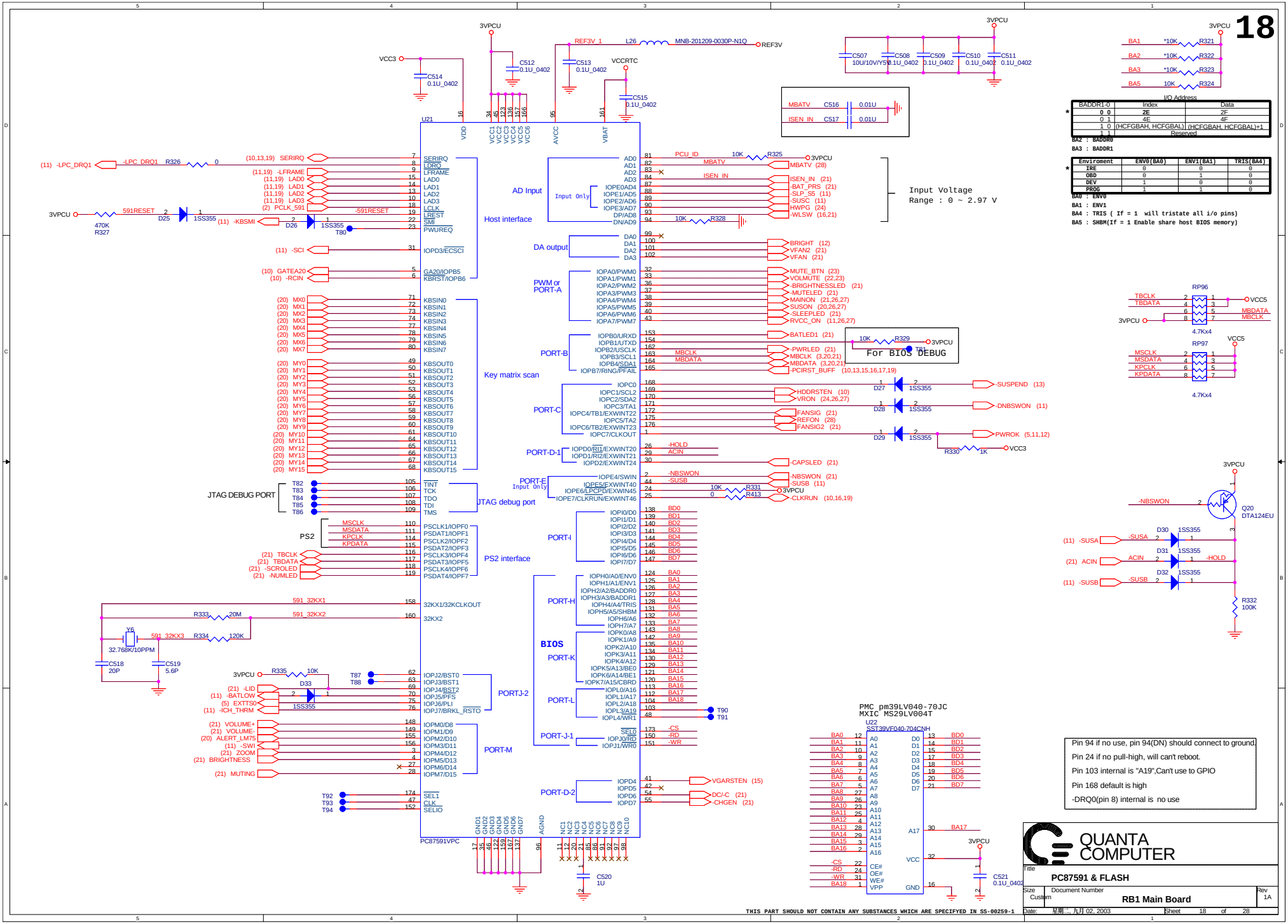
QUANTA COMPUTER

Title: **RTL8100B PCI LAN**

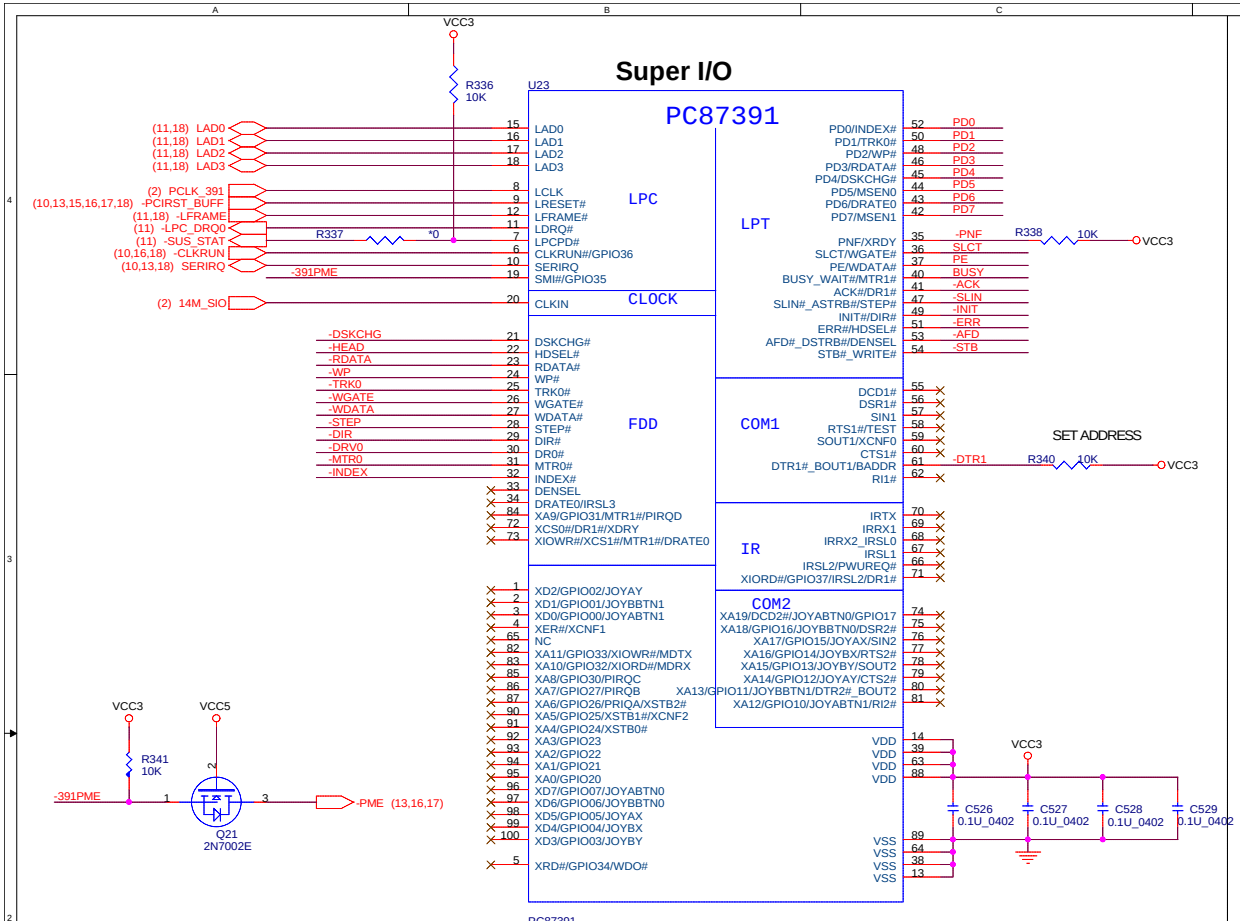
Size: Custom | Document Number: **JE1.1 Main Board** | Rev: 1A

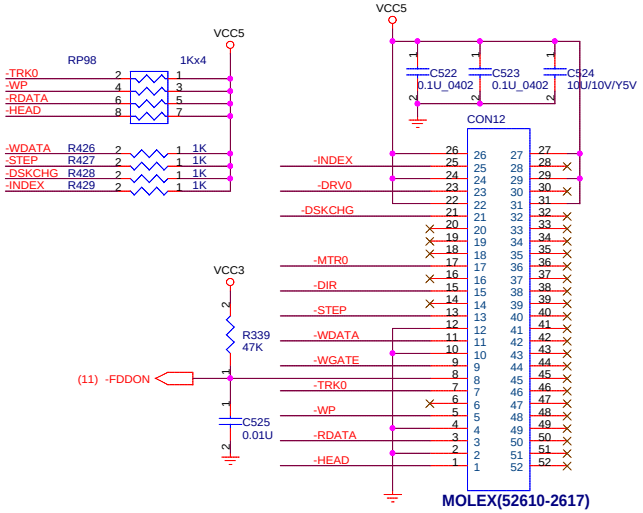
Date: 星期五, 九月 05, 2003 | Sheet 17 of 28

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1.

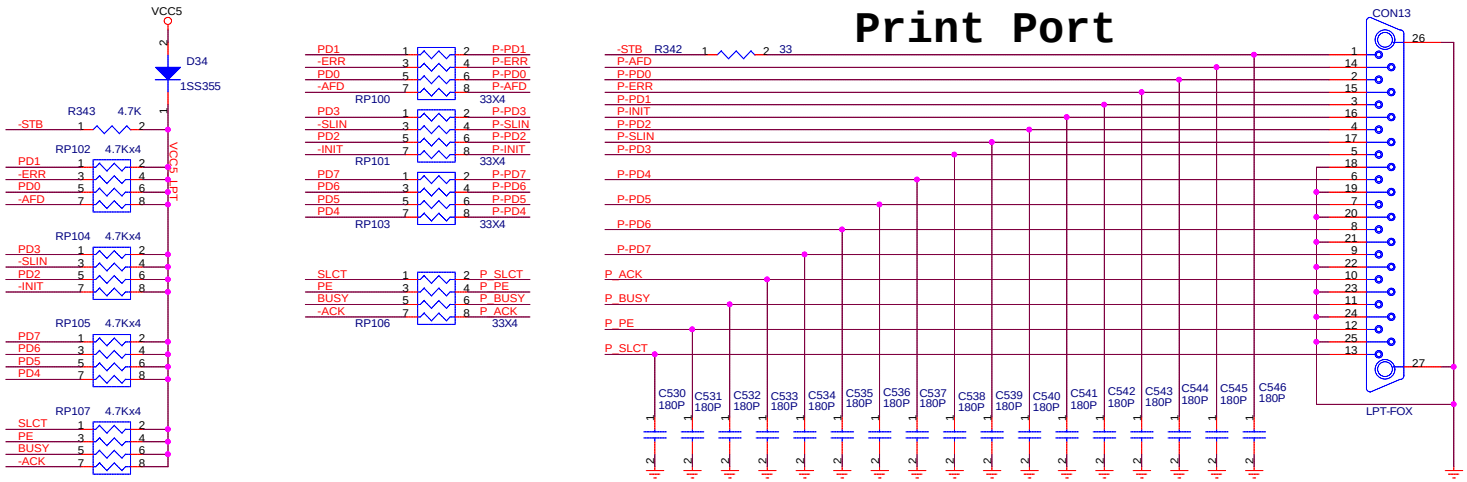

U21
PC87591VPC
SERIRQ
LDRQ
LFRAME
LAD0
LAD1
LAD2
LAD3
LCLK
LRESET
SMI
PWUREQ
IOPD3/ECSCI
GA20/IOPB5
KBRST/IOPB6
KBSIN0
KBSIN1
KBSIN2
KBSIN3
KBSIN4
KBSIN5
KBSIN6
KBSIN7
KBSOUT0
KBSOUT1
KBSOUT2
KBSOUT3
KBSOUT4
KBSOUT5
KBSOUT6
KBSOUT7
KBSOUT8
KBSOUT9
KBSOUT10
KBSOUT11
KBSOUT12
KBSOUT13
KBSOUT14
KBSOUT15
TINT
TCK
TDO
TDI
TMS
PSCLK1/IOPF0
PSDAT1/IOPF1
PSCLK2/IOPF2
PSDAT2/IOPF3
PSCLK3/IOPF4
PSDAT3/IOPF5
PSCLK4/IOPF6
PSDAT4/IOPF7
32KX1/32KCLKOUT
32KX2
IOPJ2/BST0
IOPJ3/BST1
IOPJ4/BST2
IOPJ5/PFS
IOPJ6/PLI
IOPJ7/BRKL_RSTO
IOPM0/D8
IOPM1/D9
IOPM2/D10
IOPM3/D11
IOPM4/D12
IOPM5/D13
IOPM6/D14
IOPM7/D15
SEL1
CLK
SELIO
AD0
AD1
AD2
AD3
IOPE0AD4
IOPE1/AD5
IOPE2/AD6
IOPE3/AD7
DP/AD8
DN/AD9
DA0
DA1
DA2
DA3
IOPA0/PWM0
IOPA1/PWM1
IOPA2/PWM2
IOPA3/PWM3
IOPA4/PWM4
IOPA5/PWM5
IOPA6/PWM6
IOPA7/PWM7
IOPB0/URXD
IOPB1/UTXD
IOPB2/USCLK
IOPB3/SCL1
IOPB4/SDA1
IOPB7/RING/PFAIL
IOPC0
IOPC1/SCL2
IOPC2/SDA2
IOPC3/TA1
IOPC4/TB1/EXWINT22
IOPC5/TA2
IOPC6/TB2/EXWINT23
IOPC7/CLKOUT
IOPD0/RI1/EXWINT20
IOPD1/RI2/EXWINT21
IOPD2/EXWINT24
IOPE4/SWIN
IOPE5/EXWINT40
IOPE6/LPCPD/EXWIN45
IOPE7/CLKRUN/EXWINT46
IOPI0/D0
IOPI1/D1
IOPI2/D2
IOPI3/D3
IOPI4/D4
IOPI5/D5
IOPI6/D6
IOPI7/D7
IOPH0/A0/ENV0
IOPH1/A1/ENV1
IOPH2/A2/BADDR0
IOPH3/A3/BADDR1
IOPH4/A4/TRIS
IOPH5/A5/SHBM
IOPH6/A6
IOPH7/A7
IOPK0/A8
IOPK1/A9
IOPK2/A10
IOPK3/A11
IOPK4/A12
IOPK5/A13/BE0
IOPK6/A14/BE1
IOPK7/A15/CBRD
IOPL0/A16
IOPL1/A17
IOPL2/A18
IOPL3/A19
IOPL4/WR1
SEL0
IOPJ0/RD
IOPJ1/WR0
IOPD4
IOPD5
IOPD6
IOPD7
BIOS
AD Input
Input Only
Host interface
DA output
PWM or PORT-A
PORT-B
Key matrix scan
PORT-C
PORT-D-1
PORT-E
JTAG debug port
PS2 interface
PORT-I
PORT-H
PORT-K
PORT-L
PORT-J-1
PORT-M
PORT-D-2
PORTJ-2
JTAG DEBUG PORT
PS2
Input Voltage
Range : 0 ~ 2.97 V
For BIOS DEBUG
PCU_ID
MBATV
ISEN_IN
-LPC_DRQ1
SERIRQ
-LFRAME
LAD0
LAD1
LAD2
LAD3
PCLK_591
591RESET
-591RESET
-KBSMI
-SCI
GATEA20
-RCIN
MX0
MX1
MX2
MX3
MX4
MX5
MX6
MX7
MY0
MY1
MY2
MY3
MY4
MY5
MY6
MY7
MY8
MY9
MY10
MY11
MY12
MY13
MY14
MY15
MSCLK
MSDATA
KPCLK
KPDATA
TBCLK
TBDATA
-SCROLED
-NUMLED
591_32KX1
591_32KX2
591_32KX3
-LID
-BATLOW
EXTTS0
-ICH_THRM
VOLUME+
VOLUME-
ALERT_LM75
-SWI
ZOOM
BRIGHTNESS
MUTING
-HOLD
ACIN
-CAPSLED
-NBSWON
-SUSB
-CLKRUN
HDDRSTEN
VRON
FANSIG
REFON
FANSIG2
-PWRLED
MBCLK
MBDATA
-PCIRST_BUFF
BATLED1
-SUSPEND
-DNBSWON
PWROK
-BRIGHT
VFAN2
VFAN
MUTE_BTN
VOLMUTE
-BRIGHTNESSLED
-MUTELED
MAINON
SUSON
-SLEEPLED
RVCC_ON
-BAT_PRS
-SLP_S5
-SUSC
HWPG
-WLSW
VGARSTEN
DC/-C
-CHGEN
-CS
-RD
-WR
PMC pm39LV040-70JC
MXIC MS29LV004T
U22
SST39VF040-704CNH
3VPCU
VCC3
VCCRTC
REF3V_1
REF3V
MNB-201209-0030P-N1Q
MBATV
ISEN_IN
BA1
BA2
BA3
BA5
I/O Address
BADDR1-0
Index
Data
Reserved
Enviroment
ENV0(BA0)
ENV1(BA1)
TRIS(BA4)
IRE
OBD
DEV
PROG
BA0 : ENV0
BA1 : ENV1
BA4 : TRIS (If = 1 will tristate all i/o pins)
BA5 : SHBM(If = 1 Enable share host BIOS memory)
BA2 : BADDR0
BA3 : BADDR1
RP96
RP97
4.7Kx4
Q20
DTA124EU
Pin 94 if no use, pin 94(DN) should connect to ground.
Pin 24 if no pull-high, will can't reboot.
Pin 103 internal is "A19",Can't use to GPIO
Pin 168 default is high
-DRQ0(pin 8) internal is no use
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1
QUANTA COMPUTER
PC87591 & FLASH
RB1 Main Board
Size
Custom
Document Number
Rev
1A
Date:
Sheet 18 of 28

Super I/O





Print Port



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

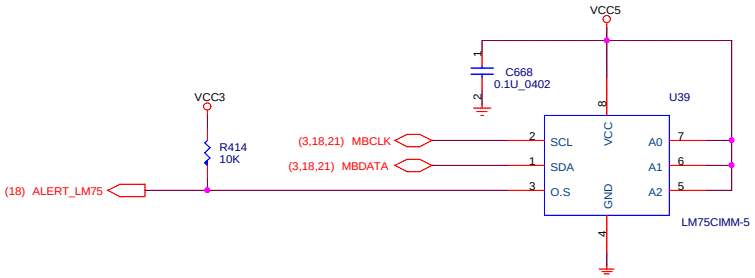
QUANTA COMPUTER

Title: SUPER I/O NS37391

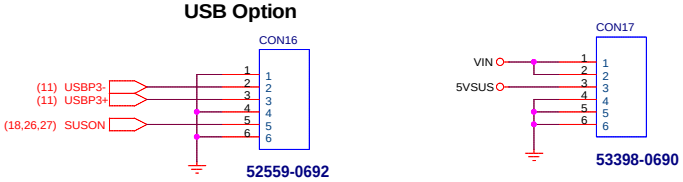
Size: Custom | Document Number: RB1 Main Board | Rev: 1A

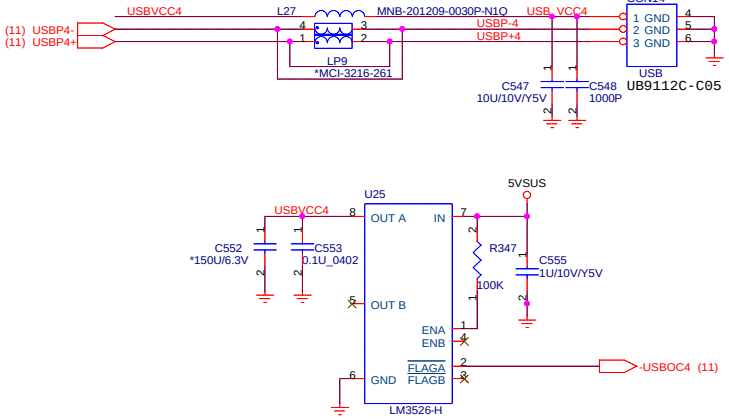
Date: 星期二, 九月 02, 2003 | Sheet 19 of 28

DRAM Thermal

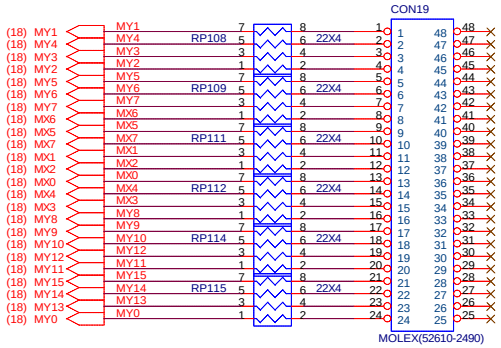


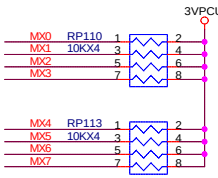
USB Option

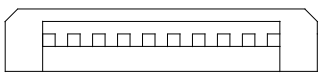


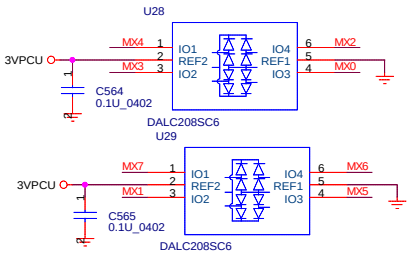


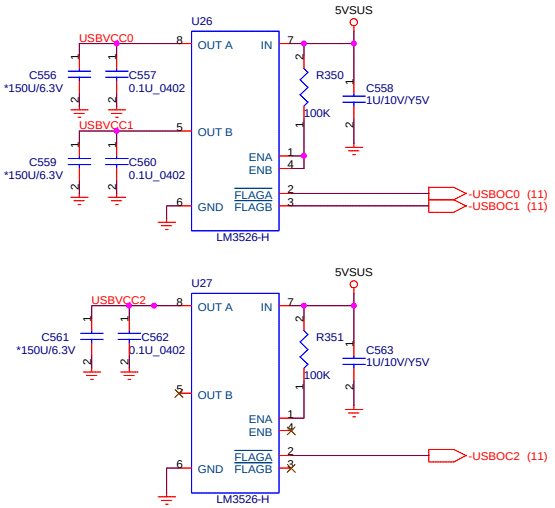
KEYBOARD

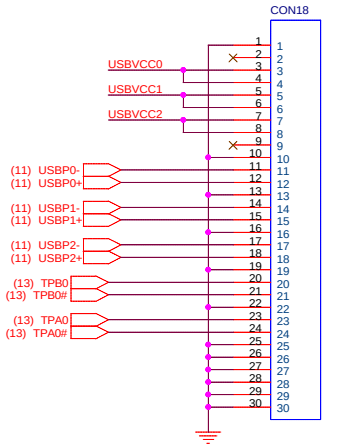










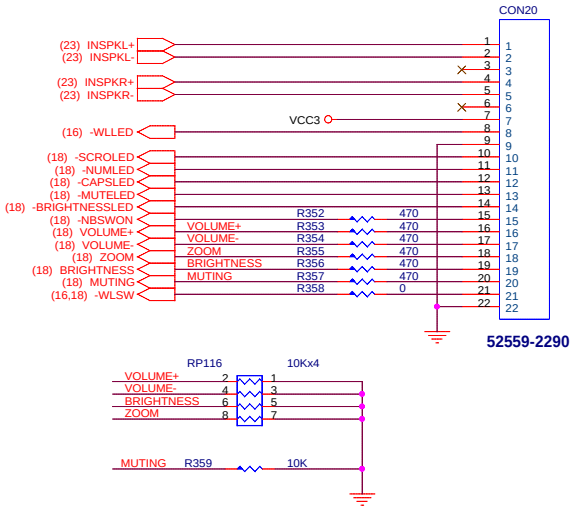


THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

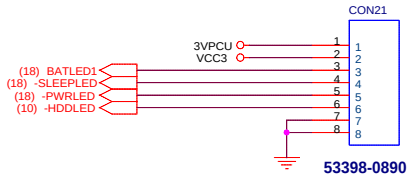
QUANTA COMPUTER

Title	K/B ,USB	
Size: Custom	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 20 of 28	

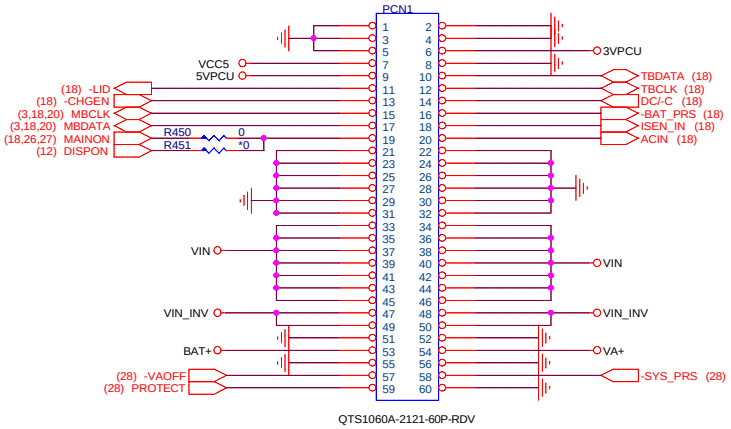
POWER SWITCH /LED BOARD CONNECTOR(SWX-163)



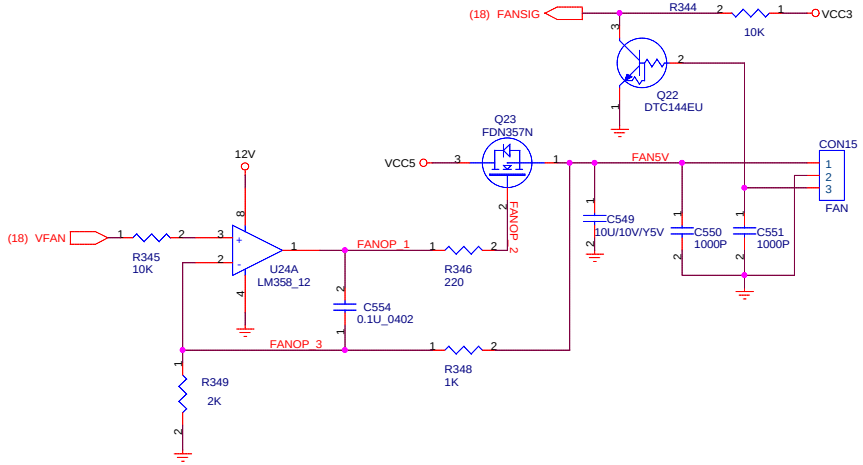
LED BOARD CONNECTOR(LEX-55)



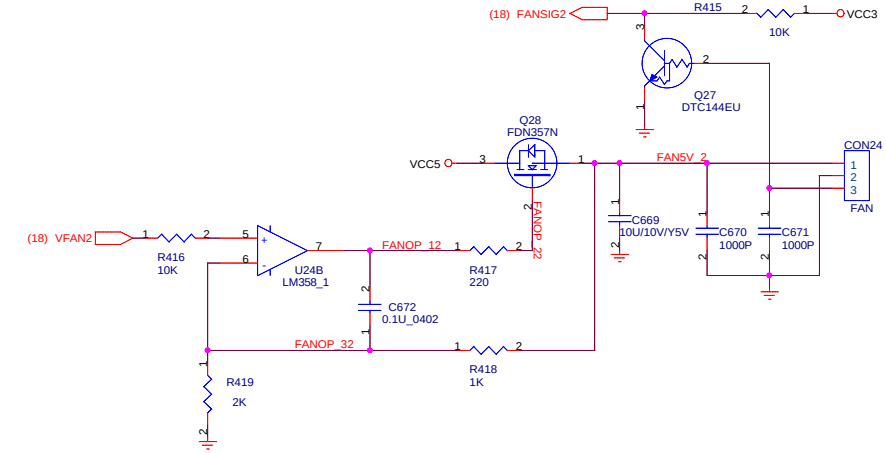
CHARGER BOARD CONNECTOR(PWS-37)

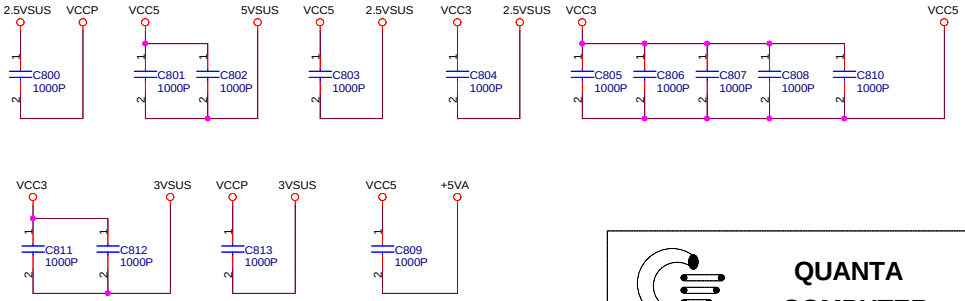


MAIN FAN UNIT



2ND FAN UNIT

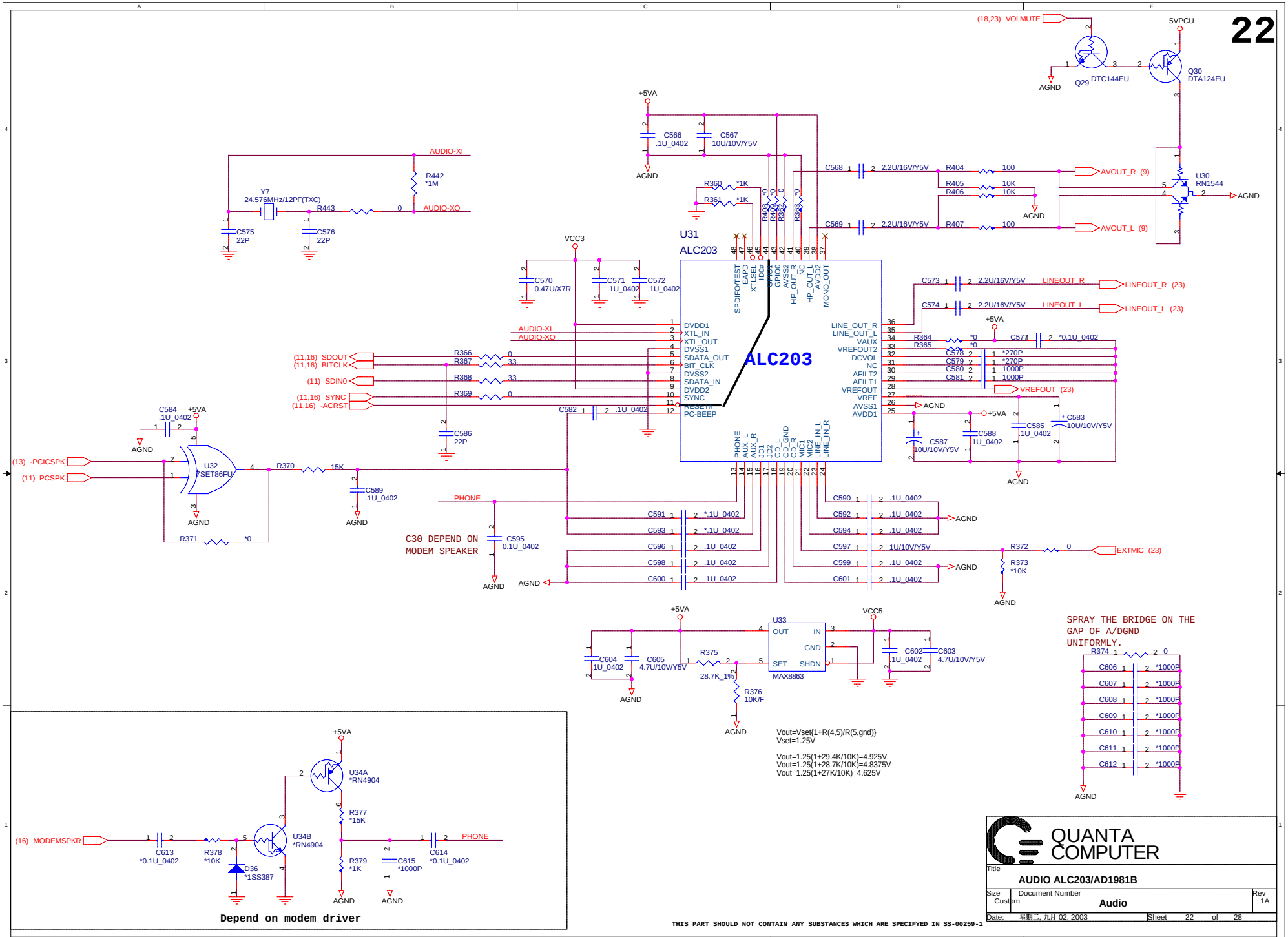




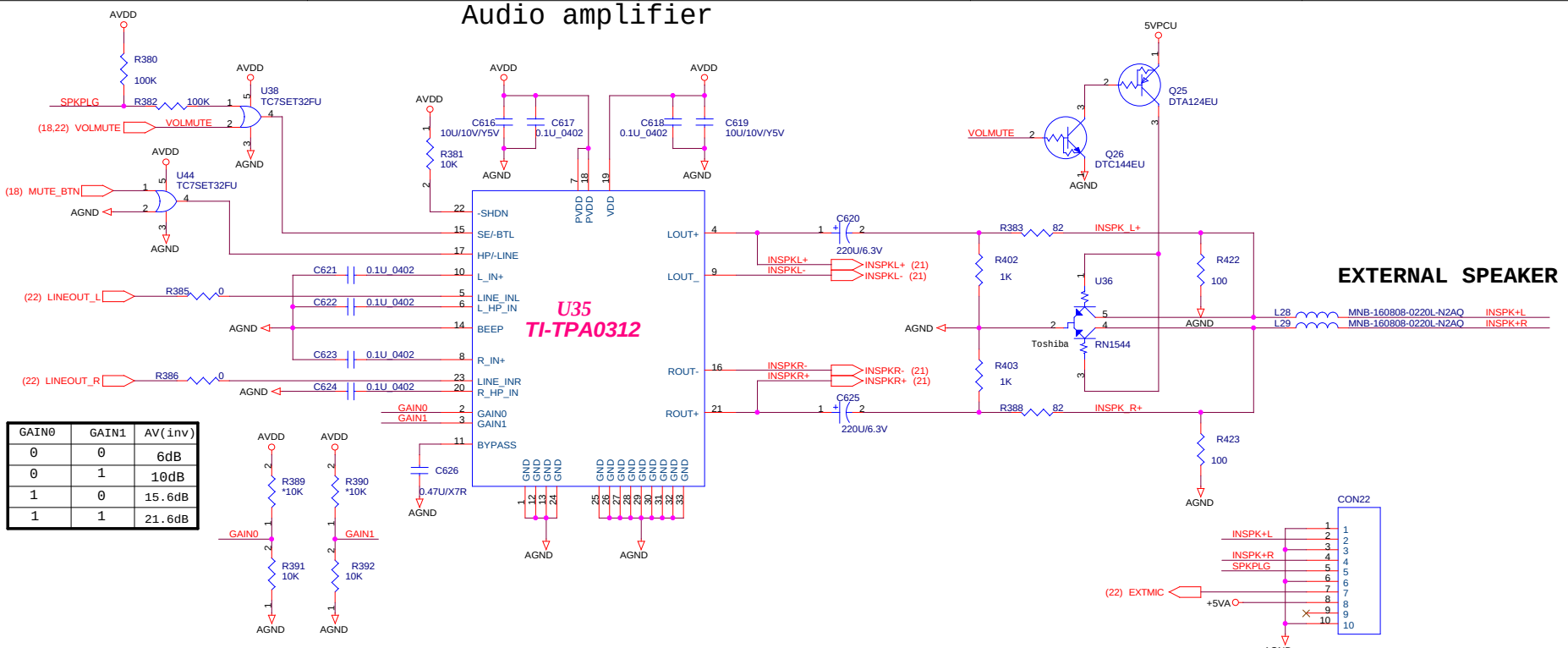
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Size	Document Number	Rev
	LED,P/S,C/B CONNECTOR	1A
Date: 星期四, 九月 04, 2003	Sheet 21 of 28	


22
(18,23) VOLMUTE
5VPCU
Q29 DTC144EU
Q30 DTA124EU
AGND
+5VA
C566 .1U_0402
C567 10U/10V/Y5V
AUDIO-XI
AUDIO-XO
R442 *1M
Y7 24.576MHz/12PF(TXC)
R443 0
C575 22P
C576 22P
U31
ALC203
VCC3
C570 0.47U/X7R
C571 .1U_0402
C572 .1U_0402
R360 *1K
R361 *1K
C568 2.2U/16V/Y5V
C569 2.2U/16V/Y5V
R404 100
R405 10K
R406 10K
R407 100
AVOUT_R (9)
AVOUT_L (9)
U30 RN1544
C573 2.2U/16V/Y5V
C574 2.2U/16V/Y5V
LINEOUT_R
LINEOUT_L
LINEOUT_R (23)
LINEOUT_L (23)
R364 *0
R365 *0
C577 *0.1U_0402
C578 *270P
C579 *270P
C580 1000P
C581 1000P
VREFOUT (23)
C587 10U/10V/Y5V
C588 1U_0402
C585 .1U_0402
C583 10U/10V/Y5V
(11,16) SDOUT
(11,16) BITCLK
(11) SDIN0
(11,16) SYNC
(11,16) -ACRST
R366 0
R367 33
R368 33
R369 0
C586 22P
C582 .1U_0402
C584 .1U_0402
(13) -PCICSPK
(11) PCSPK
U32 7SET86FU
R370 15K
R371 *0
C589 .1U_0402
PHONE
C595 0.1U_0402
C30 DEPEND ON MODEM SPEAKER
C590 .1U_0402
C591 *.1U_0402
C592 .1U_0402
C593 *.1U_0402
C594 .1U_0402
C596 .1U_0402
C597 1U/10V/Y5V
C598 .1U_0402
C599 .1U_0402
C600 .1U_0402
C601 .1U_0402
R372 0
R373 *10K
EXTMIC (23)
U33
MAX8863
VCC5
C604 1U_0402
C605 4.7U/10V/Y5V
R375 28.7K_1%
R376 10K/F
C602 1U_0402
C603 4.7U/10V/Y5V
Vout=Vset{1+R(4,5)/R(5,gnd)}
Vset=1.25V
Vout=1.25{1+29.4K/10K}=4.925V
Vout=1.25{1+28.7K/10K}=4.8375V
Vout=1.25{1+27K/10K}=4.625V
SPRAY THE BRIDGE ON THE GAP OF A/DGND UNIFORMLY.
R374 0
C606 *1000P
C607 *1000P
C608 *1000P
C609 *1000P
C610 *1000P
C611 *1000P
C612 *1000P
(16) MODEMSPKR
U34A *RN4904
U34B *RN4904
R377 *15K
R378 *10K
R379 *1K
C613 *0.1U_0402
C614 *0.1U_0402
C615 *1000P
D36 *1SS387
Depend on modem driver
QUANTA COMPUTER
Title
AUDIO ALC203/AD1981B
Size Custom
Document Number Audio
Rev 1A
Date: 星期二, 九月 02, 2003
Sheet 22 of 28
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

Audio amplifier



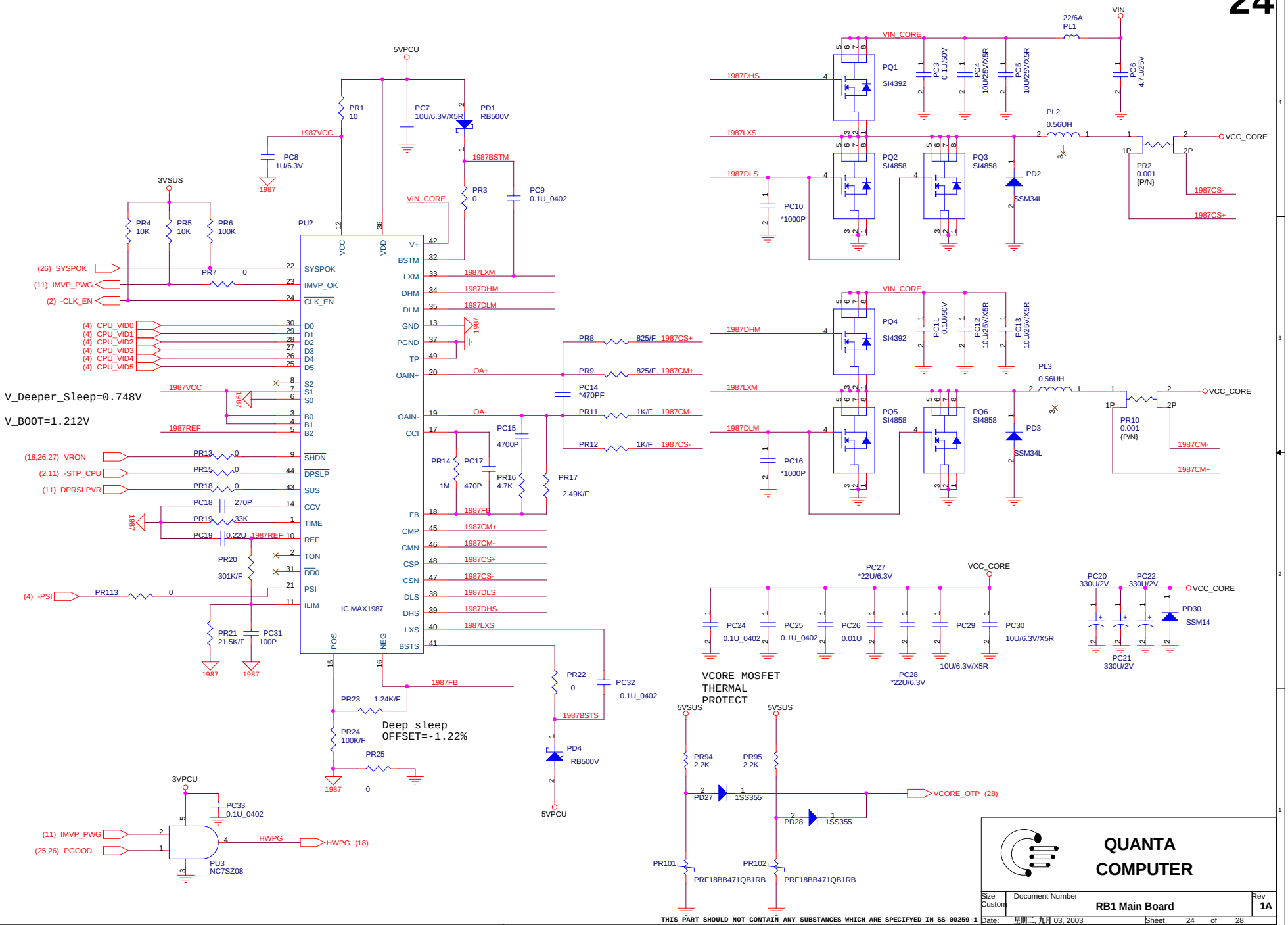
*

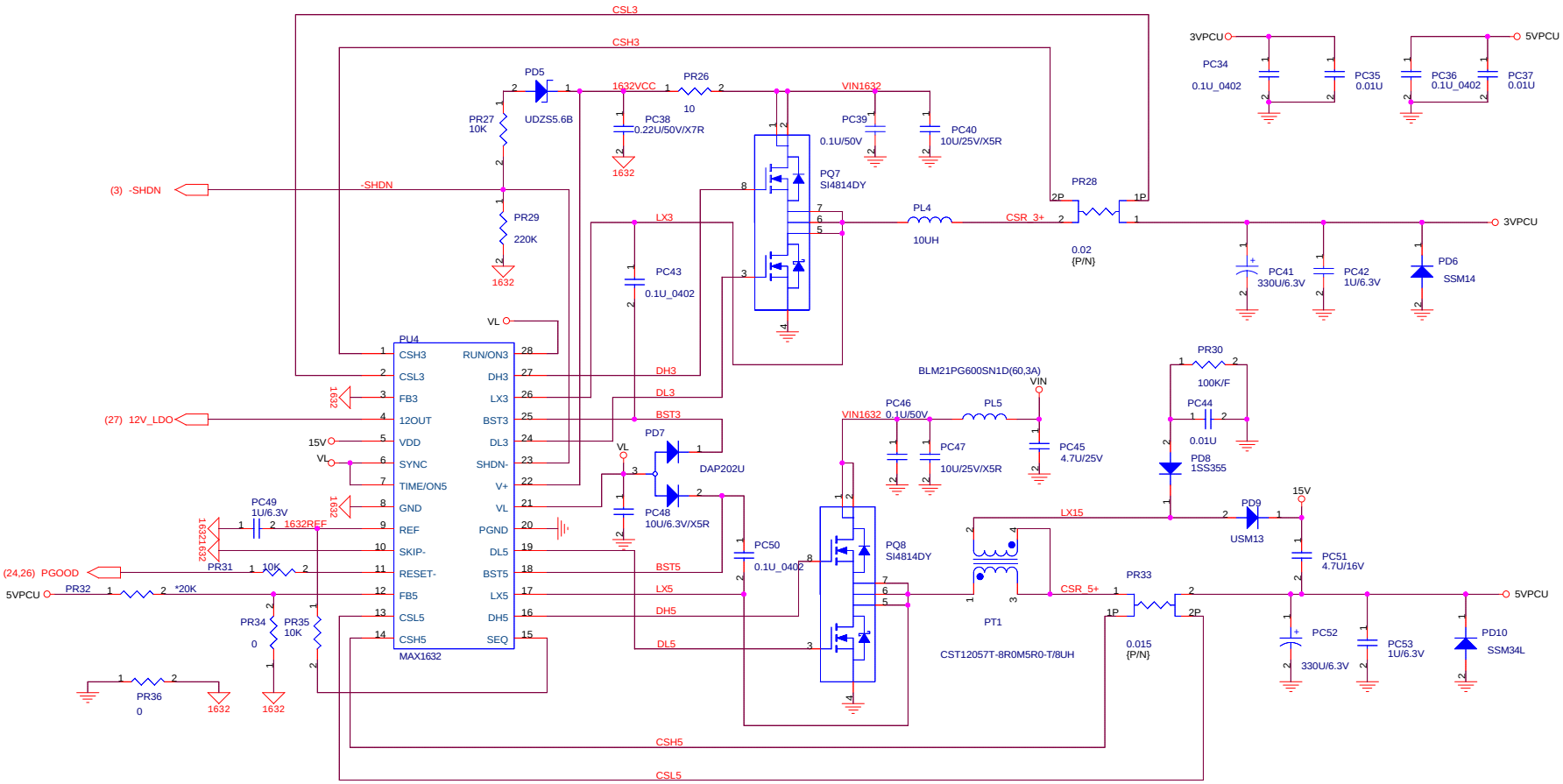
GAIN0	GAIN1	AV(inv)
0	0	6dB
0	1	10dB
1	0	15.6dB
1	1	21.6dB

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

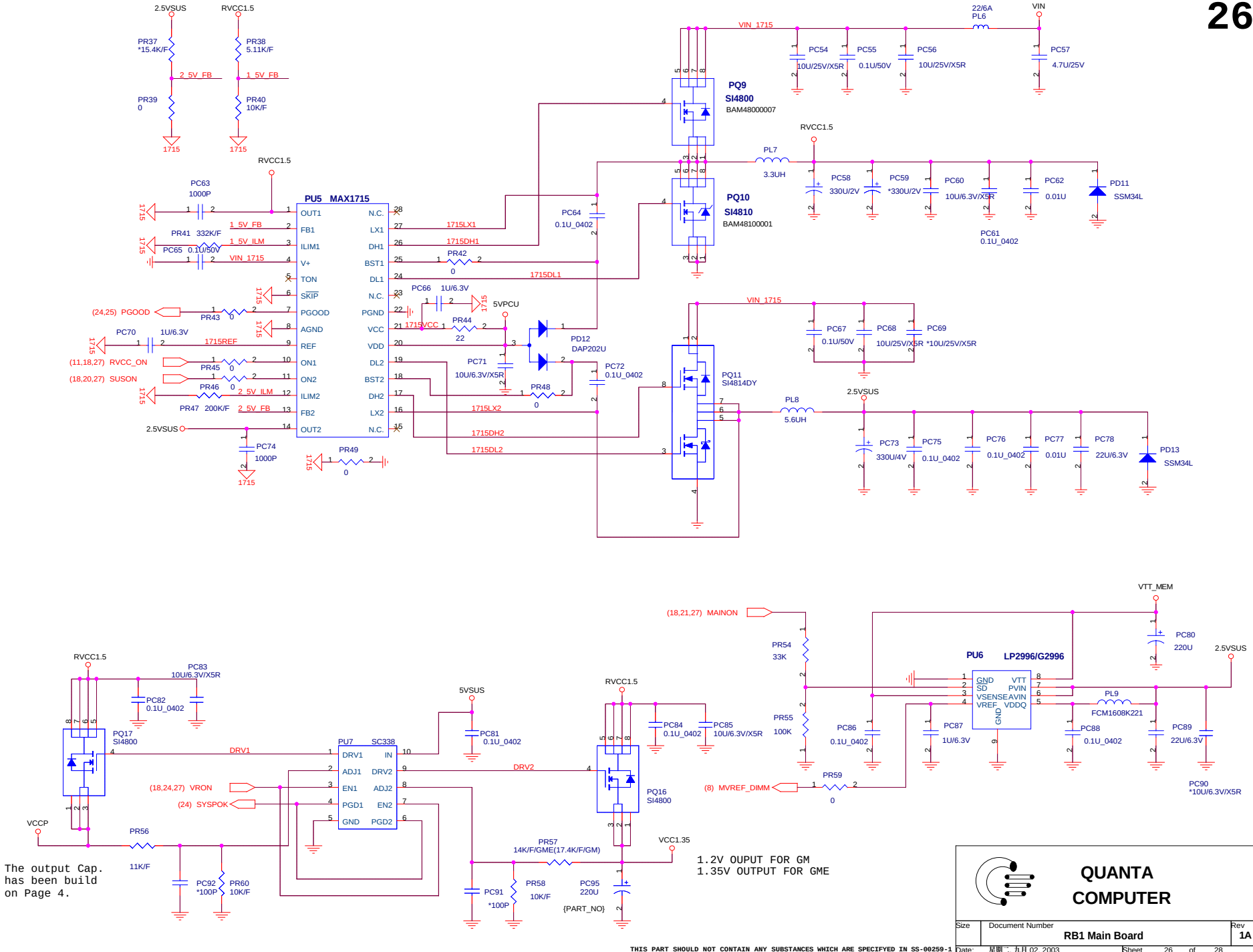
Title	AMP	
Size: Custom	Document Number: Audio	Rev: 1A
Date: 星期二, 九月 03, 2003	Sheet 23 of 28	


5VPCU
PR1
10
PC7
10U/6.3V/X5R
PD1
RB500V
1987VCC
PC8
1U/6.3V
1987
1987BSTM
PR3
0
PC9
0.1U_0402
VIN_CORE
3VSUS
PR4
10K
PR5
10K
PR6
100K
PU2
VCC
VDD
V+
BSTM
LXM
DHM
DLM
GND
PGND
TP
OAIN+
OAIN-
CCI
FB
CMP
CMN
CSP
CSN
DLS
DHS
LXS
BSTS
1987LXM
1987DHM
1987DLM
1987CM+
1987CM-
1987CS+
1987CS-
1987DLS
1987DHS
1987LXS
1987FB
(26) SYSPOK
(11) IMVP_PWG
(2) -CLK_EN
PR7
0
SYSPOK
IMVP_OK
CLK_EN
(4) CPU_VID0
(4) CPU_VID1
(4) CPU_VID2
(4) CPU_VID3
(4) CPU_VID4
(4) CPU_VID5
D0
D1
D2
D3
D4
D5
S2
S1
S0
B0
B1
B2
1987REF
(18,26,27) VRON
(2,11) -STP_CPU
(11) DPRSLPVR
SHDN
DPSLP
SUS
PR13
PR15
PR18
PC18
270P
PR19
33K
PC19
0.22U
CCV
TIME
REF
TON
DD0
PSI
ILIM
PR20
301K/F
(4) -PSI
PR113
PR21
21.5K/F
PC31
100P
IC MAX1987
POS
NEG
PR23
1.24K/F
PR24
100K/F
PR25
0
Deep sleep
OFFSET=-1.22%
PR8
825/F
PR9
825/F
PC14
*470PF
PR11
1K/F
PR12
1K/F
OA+
OA-
PC15
4700P
PR14
1M
PC17
470P
PR16
4.7K
PR17
2.49K/F
PR22
0
PC32
0.1U_0402
1987BSTS
PD4
RB500V
5VPCU
V_Deeper_Sleep=0.748V
V_BOOT=1.212V
3VPCU
PC33
0.1U_0402
(11) IMVP_PWG
(25,26) PGOOD
HWPG
HWPG (18)
PU3
NC7SZ08
VIN
22/6A
PL1
VIN_CORE
PQ1
SI4392
PC3
0.1U/50V
PC4
10U/25V/X5R
PC5
10U/25V/X5R
PC6
4.7U/25V
PL2
0.56UH
VCC_CORE
PQ2
SI4858
PQ3
SI4858
PD2
SSM34L
PR2
0.001
{P/N}
1987CS-
1987CS+
PC10
*1000P
PQ4
SI4392
PC11
0.1U/50V
PC12
10U/25V/X5R
PC13
10U/25V/X5R
PL3
0.56UH
PQ5
SI4858
PQ6
SI4858
PD3
SSM34L
PR10
0.001
{P/N}
1987CM-
1987CM+
PC16
*1000P
PC27
*22U/6.3V
PC24
0.1U_0402
PC25
0.1U_0402
PC26
0.01U
PC28
*22U/6.3V
PC29
PC30
10U/6.3V/X5R
VCORE MOSFET
THERMAL
PROTECT
PC20
330U/2V
PC22
330U/2V
PD30
SSM14
PC21
330U/2V
5VSUS
PR94
2.2K
PR95
2.2K
PD27
1SS355
PD28
1SS355
VCORE_OTP (28)
PR101
PRF18BB471QB1RB
PR102
PRF18BB471QB1RB
THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1
QUANTA
COMPUTER
Size
Custom
Document Number
RB1 Main Board
Rev
1A
Date:
星期三, 九月 03, 2003
Sheet
24
of
28



QUANTA COMPUTER		
Size	Document Number: RB1 Main Board	Rev: 1A
Date: 星期二, 九月 02, 2003	Sheet 25 of 28	

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1



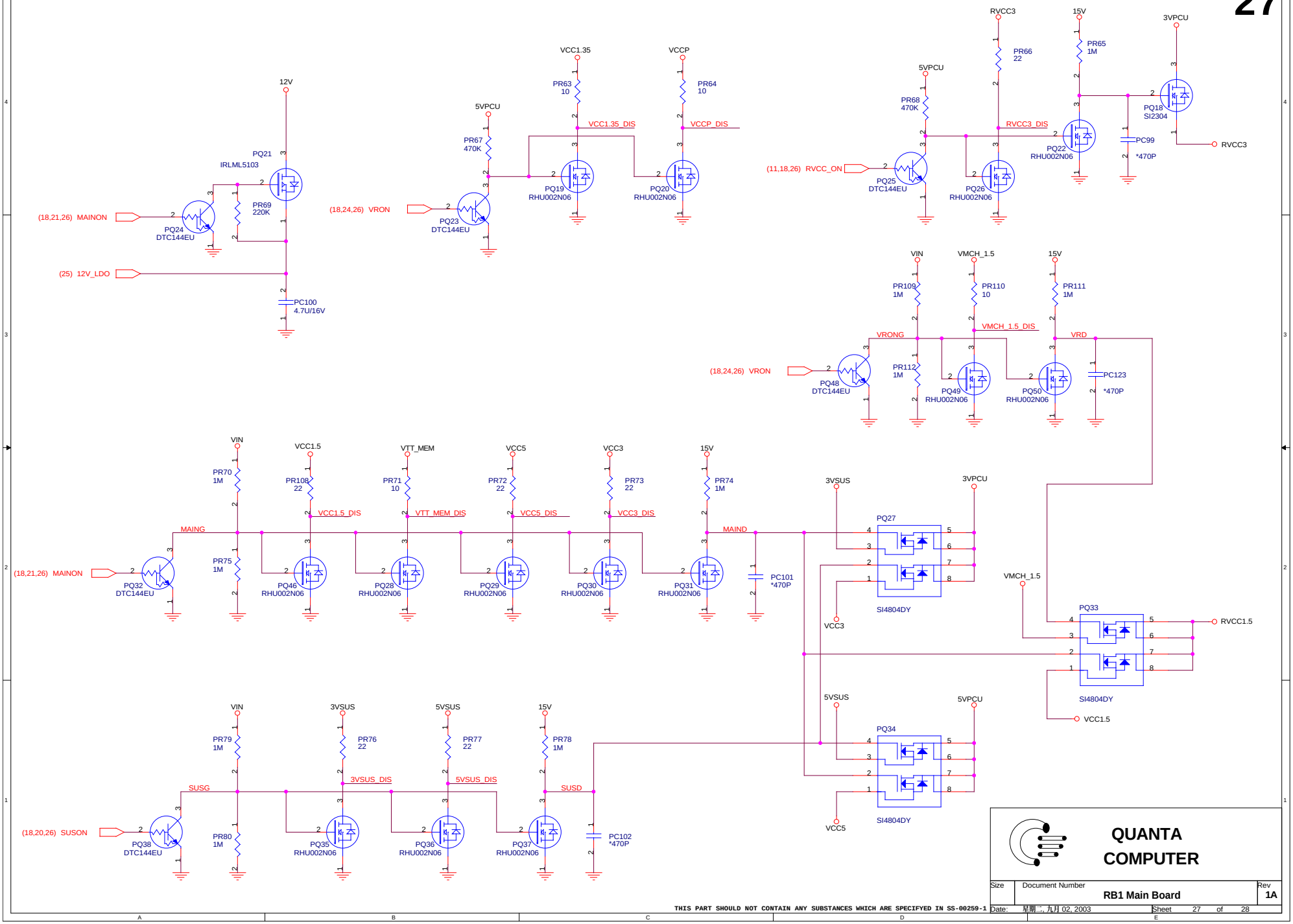
The output Cap. has been build on Page 4.

1.2V OUPUT FOR GM
1.35V OUTPUT FOR GME

THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

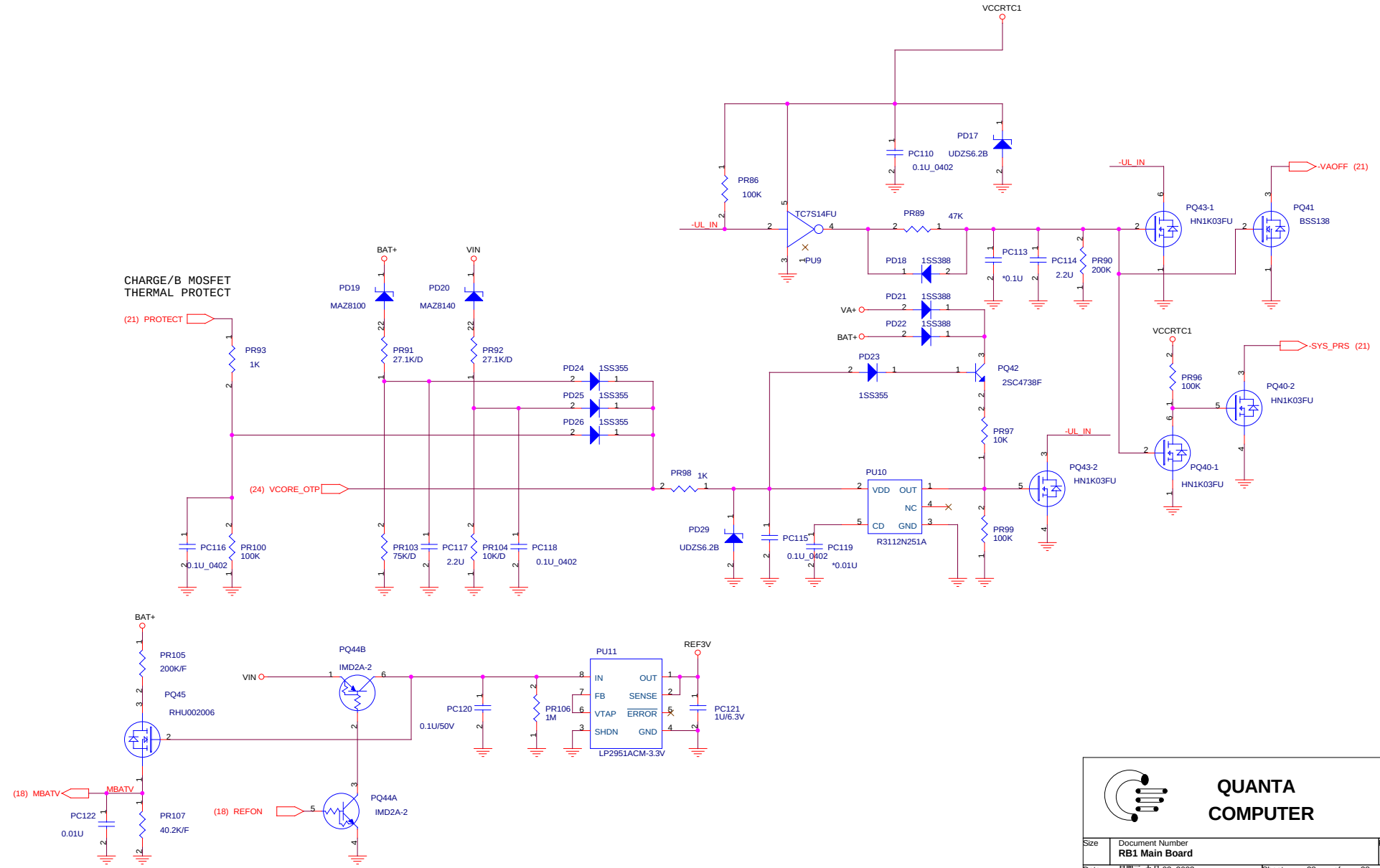
Size	Document Number	Rev
	RB1 Main Board	1A
Date: 星期二, 九月 02, 2003	Sheet 26 of 28	



THIS PART SHOULD NOT CONTAIN ANY SUBSTANCES WHICH ARE SPECIFYED IN SS-00259-1

QUANTA COMPUTER

Size	Document Number	Rev
	RB1 Main Board	1A
Date: 星期二, 九月 02, 2003	Sheet 27 of 28	



QUANTA COMPUTER

Size	Document Number	Rev
	RB1 Main Board	1A
Date: 星期三, 九月 03, 2003	Sheet 28 of 28	

www.s-manuals.com